valentin
ETIKETTENDRUCKSYSTEME

English

Service manual

Thermal Transfer Printer
Desco II type

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Table of contents

1. Electronics 1
1.1. Wiring diagrams 1
1.1.1. Wiring diagram power unit 1
1.1.2. Wiring diagram CPU 2
1.2. Component parts of CPU (Revision 0) 3
1.3. Component parts of CPU (Revision A) 4
1.3.1. Bridge plan 5
1.4. Component parts of power supply 6
1.5. Connector assignment rear panel 7
1.6. Changing of fuses 8
1.6.1. Primary fuse 8
1.6.2. Secondary fuse 8
1.7. Check-points 9
1.7.1. Voltage supply power board 9
1.7.2. Voltage supply CPU 9
1.7.3. Photocells 10
1.7.4. Clock signals 13
1.7.5. Motor signals 13
1.8. Service monitor 14
1.8.1. Valuation of label parameters 14
1.8.2. Error message: label error 15
1.8.3. Error elimination 16
1.8.4. Monitor 16

2. Options 17
2.1. External inputs / outputs 17
2.1.1. Component parts external I/O's 17
2.1.2. Installation external I/O's 18
2.1.3. PIN assignment of DSUB connections 19
2.1.4. Check-points 20
2.2. PC-Card 21
2.2.1. Component parts PC-Card 21
2.2.2. Installation PC-Card 22
2.3. RS 485 23
2.3.1. Component parts RS 485 23
2.3.2. Installation RS 485 23
2.4. Extension of RAM 24
2.5. Date/Time 25
2.6. Extension of RISC 26
2.6.1. Component parts RISC 26
2.6.2. Installation RISC 27
2.6.3. Moveable cutter / exchange of cutting ledge 28
2.6.4. To adjust cutter 30
2.6.5. To adjust cutter ledge 31

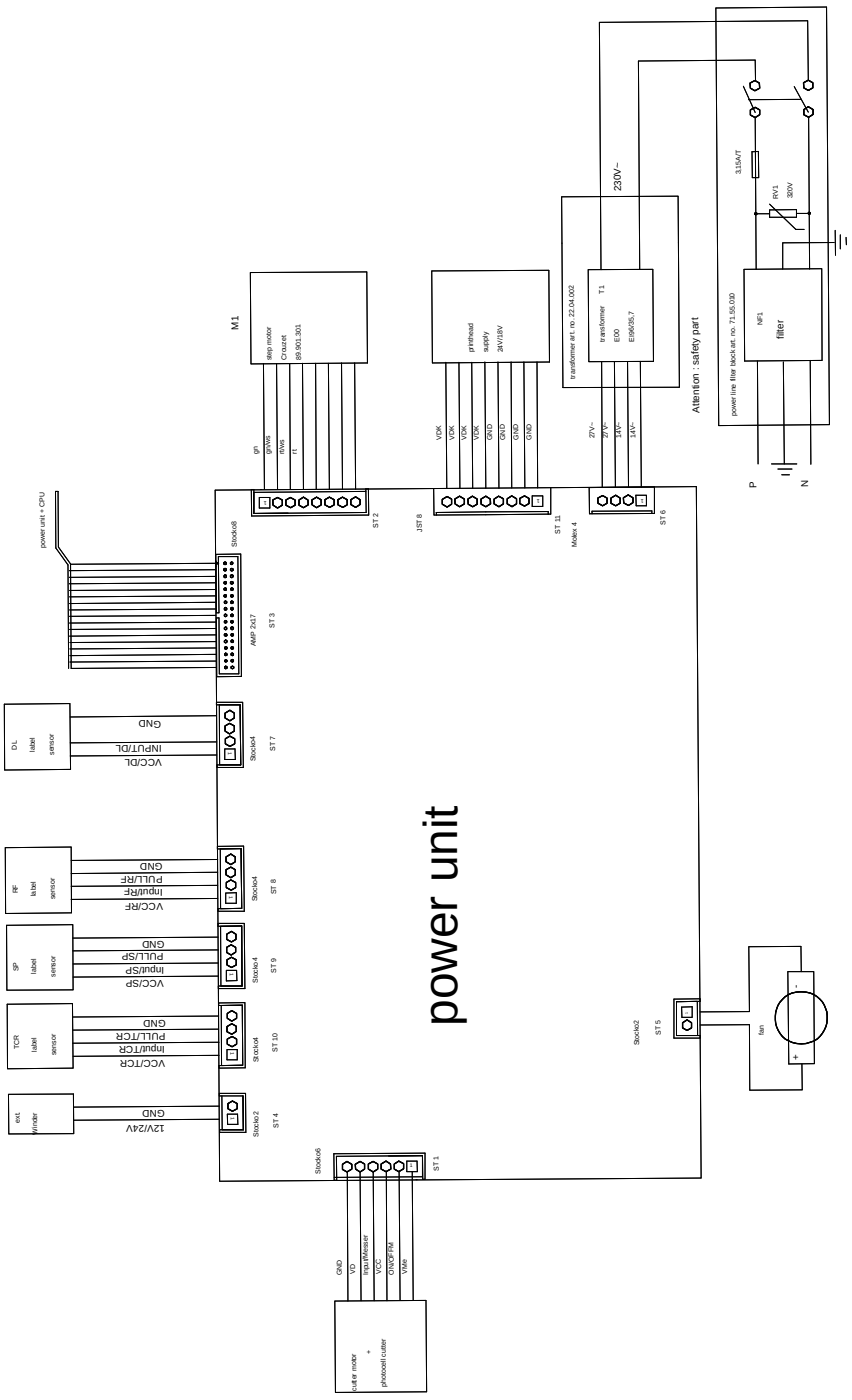
3. Mechanics 33
3.1. Exchange of printhead 33
3.2. Adjustment of printhead 34
3.2.1. Parallelity 34
3.2.2. Pressure 35
3.3. Cleaning of printhead and pressure roll 36
3.4. Exchange of ribbon unwinding roll 37
3.5. Exchange of pressure roll 38
3.6. Exchange of synchroflex drive 40
3.7. Exchange upper ribbon tension roll 42
3.8. Exchange of O-belt 44
3.9. Exchange of cogged belt 46
3.9.1. Standard 46
3.9.2. Version: rewinding roll inverse 50
3.9.3. Thermal version 53
3.10. To oil and lubricate 54

4. Possible sources of error 55
4.1. Display 55
4.2. Table of errors 56

1. Electronics

1.1. Wiring diagrams

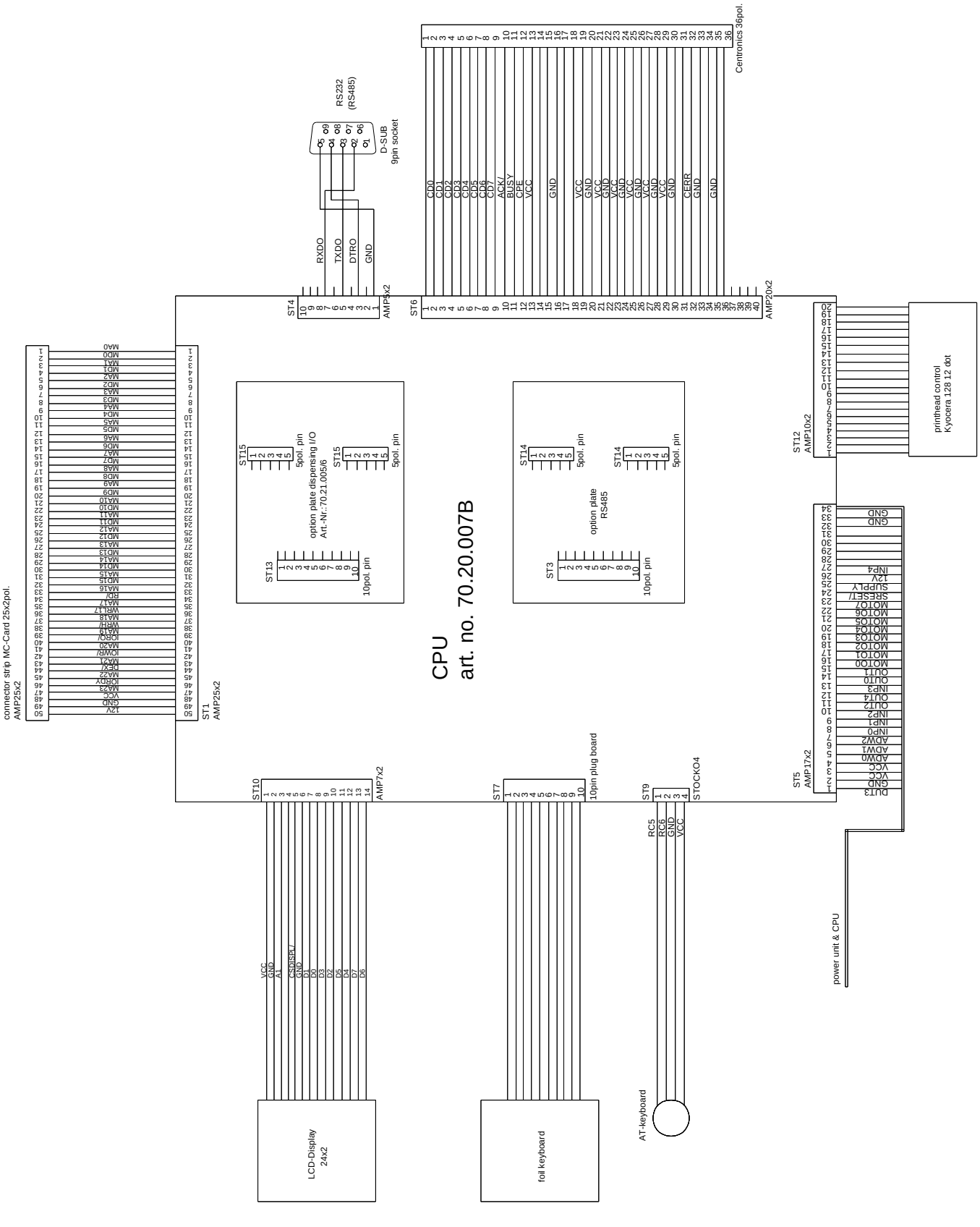
1.1.1. Wiring diagram power unit



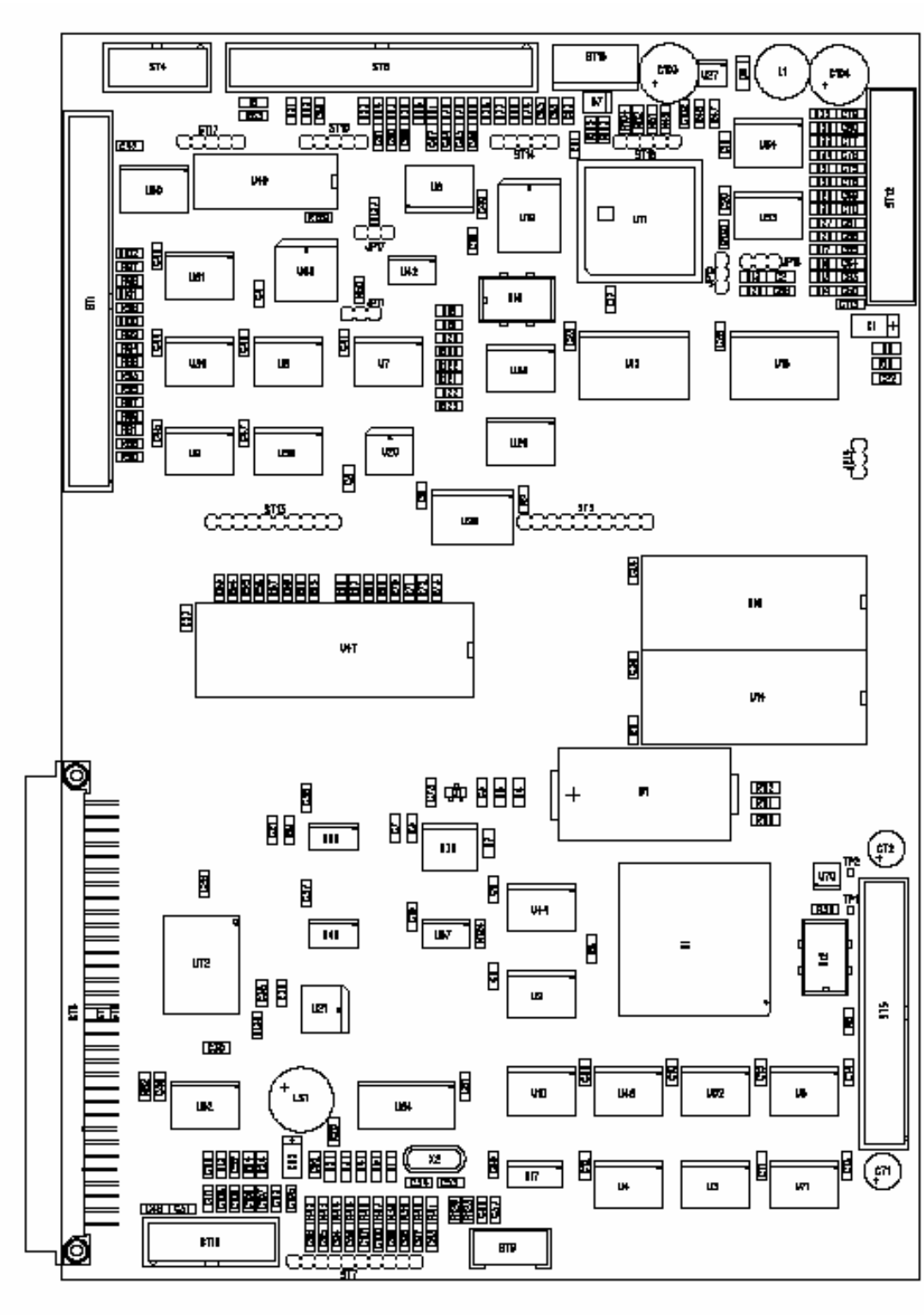
art. no. 70.55.015
7,6 dot printers

art. no. 70.55.010
8 and 12 dot printers

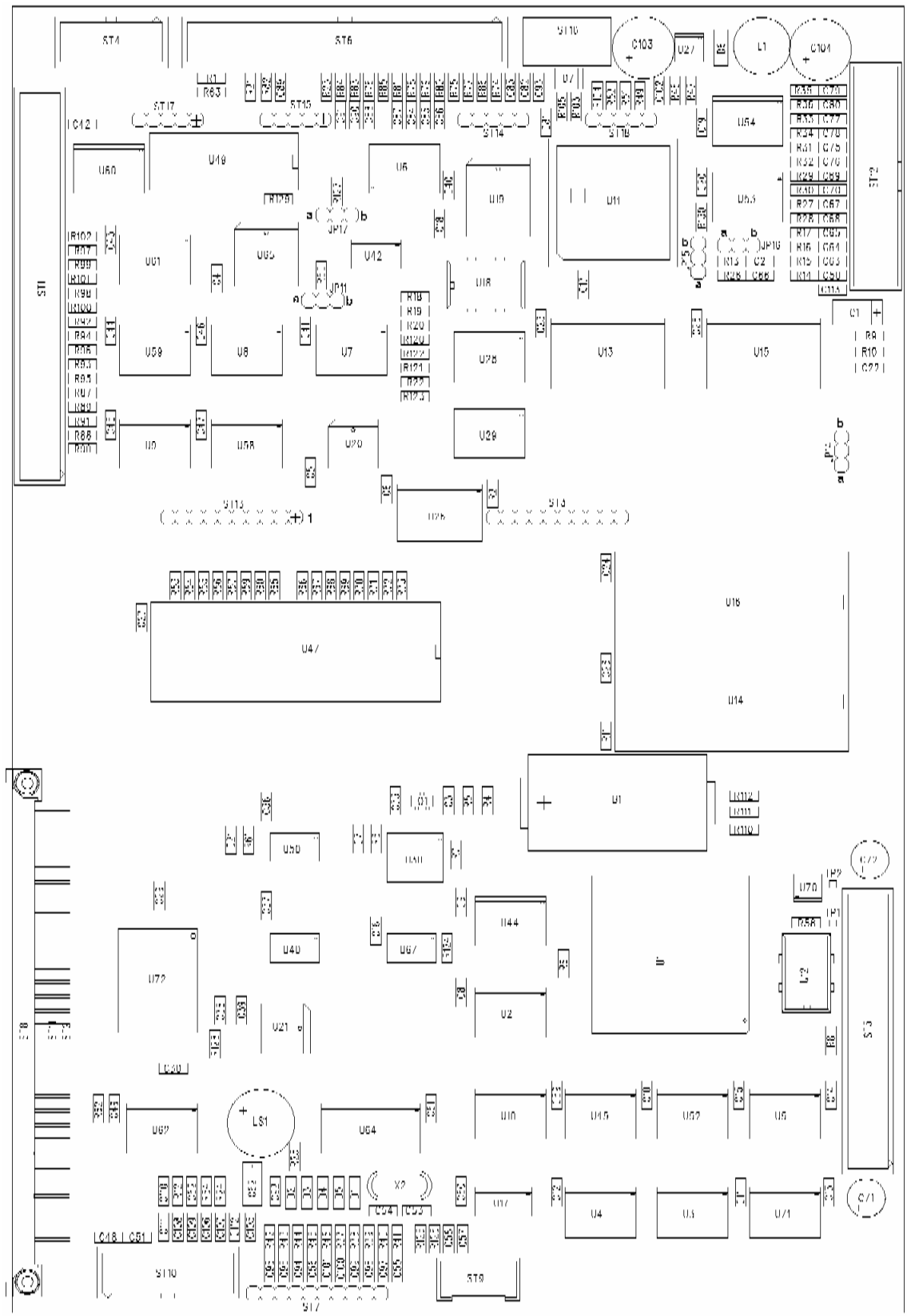
1.1.2. Wiring diagram CPU



1.2. Component parts of CPU (Revision 0)



1.3. Component parts of CPU (Revision A)



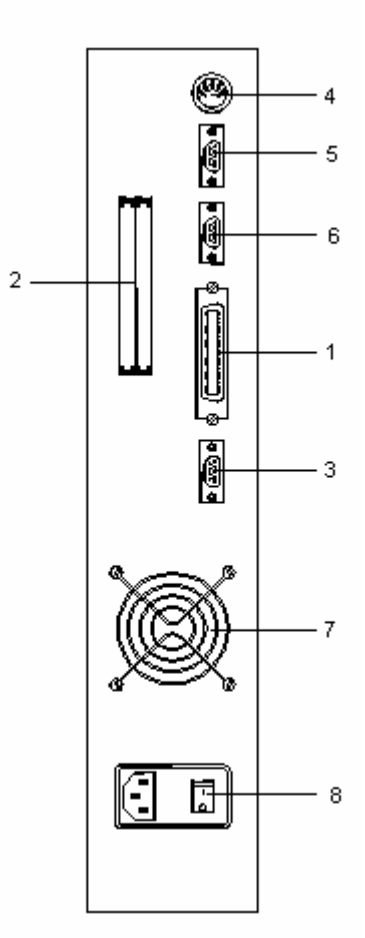
1.3.1. Bridge plan

Printhead	Version	Article No.	Machine	Jumper position JP15	Specials
KCE-53 (12 Dot) KCE-107 (12 Dot) KCE-128 (12 Dot) KCE-150 (12 Dot)	V5a	82.20.035	V55	a	Optimized timing but lower pressure
KHT-106 (7,6 Dot)	V3C	82.55.006	V55	a	Printhead tension 18V Adapte cable
KM2004 A3 (8 Dot) (flat w/o lug) KM2004 B3 (8 Dot) (flat with lug)	V3B	82.55.005	V55	b	Adapter cable

Option	Jumper JP11	Jumper JP14	Jumper JP15	Jumper JP16	Jumper JP17 (only 70.20.052 and 70.20.053
Default	b	a	s. o.	-	b
Hotstart	a	b	s. o.	-	b
RISC	a	a	s. o.	-	b
Initialisation CPU via Eprom	a	a	s. o.	-	a

1.4. Component parts of power supply

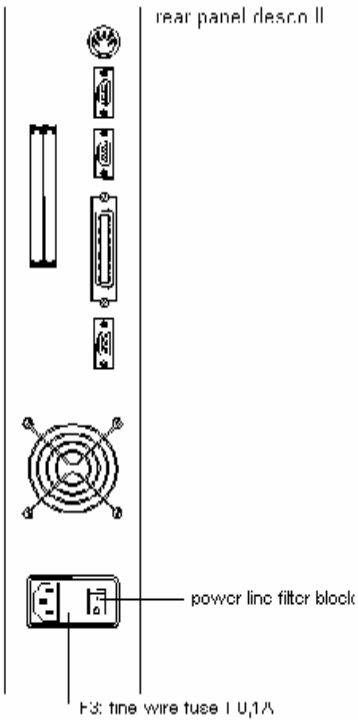
1.5. Connector assignment rear panel



1 = Centronics interface
2 = Memory-Card slot A and B (Option)
3 = serial interface RS 232
4 = socket for PC keyboard
5 = external input
6 = external output
7 = fan
8 = power supply with ON/OFF switch

1.6. Changing of fuses

1.6.1. Primary fuse



The primary fuse is in the power line filter block and accessible from outside

After plugging out the cover can be opened.

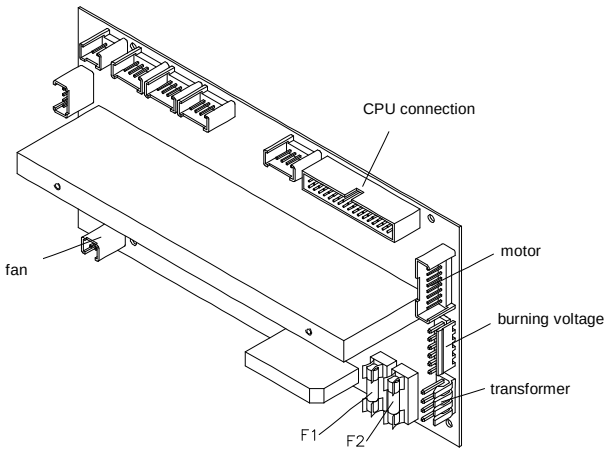
There behind you will find the fuse-switch, which has to be pulled out to change the fuse.

1.6.2. Secondary fuse

Attention: The machine should only be opened by competent staff.
Plug out before removing the cover!

After removing the cover the CPU plate is visible. Underneath you will find the power supply board with 2 secondary fuses. After removing the cover it will be accessible.

F1: fine-wire fuse T 2,5 A fuse for 5 V and 12 V supply
F2: fine-wire fuse T 10,0 A fuse for motor voltage (33 V) and burning voltage (24 V) and cutter res. rewinding unit



1.7. Check-points

1.7.1. Voltage supply power board

check-point		description	value
ST3	PIN 3, 4	VCC	5V
ST3	PIN 26	12V	12V
ST3	PIN 3	24V	24V
ST11	PIN 1-3	VDK	24V
U10	PIN 3	VIN	~ 33V
ST3	PIN 33, 34	GND	0V
ST3	PIN 25	SUPPLY 1	~ 19V

1.7.2. Voltage supply CPU

check-point		description	value
ST5	PIN 2, 33, 34	GND	0V
ST5	PIN 3, 4	VCC	5V
ST5	PIN 26	12V	12V
ST5	PIN 25	SUPPLY	~ 19V

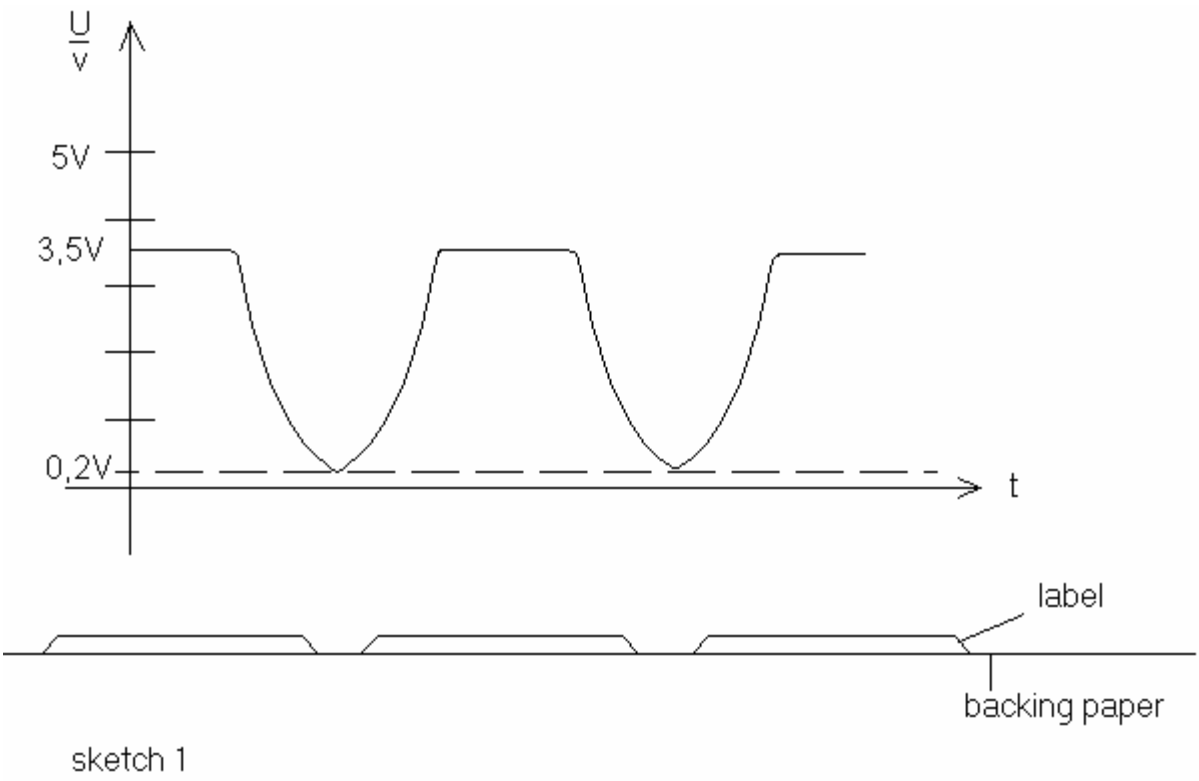
1.7.3. Photocells

Label photocell transmission

ST7:	PIN 4	VIN	~1,2V
ST7:	PIN 3	INPUT	see below
ST7:	PIN 1	GND	0V

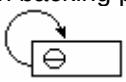
Depending on the transparency of the label res. backing paper the voltage at the input of the AD converter is changing.

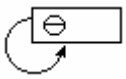
Sketch 1 shows a typical voltage wave form at "INPUT", measurable at ST5 PIN 5 (CPU).



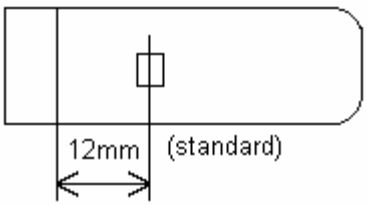
sketch 1

In case the adjusted value of the sending current of the photocell is insufficient, e.g. when using extremely thick or thin backing paper, it can be adjusted by changing P1 (power unit plate).

Rotation to the right  adjustment for thick backing paper

Rotation to the left  adjustment for thin backing paper

The "INPUT" level can be displayed in menu item "Service functions" (label parameter) under "LS: x,x".

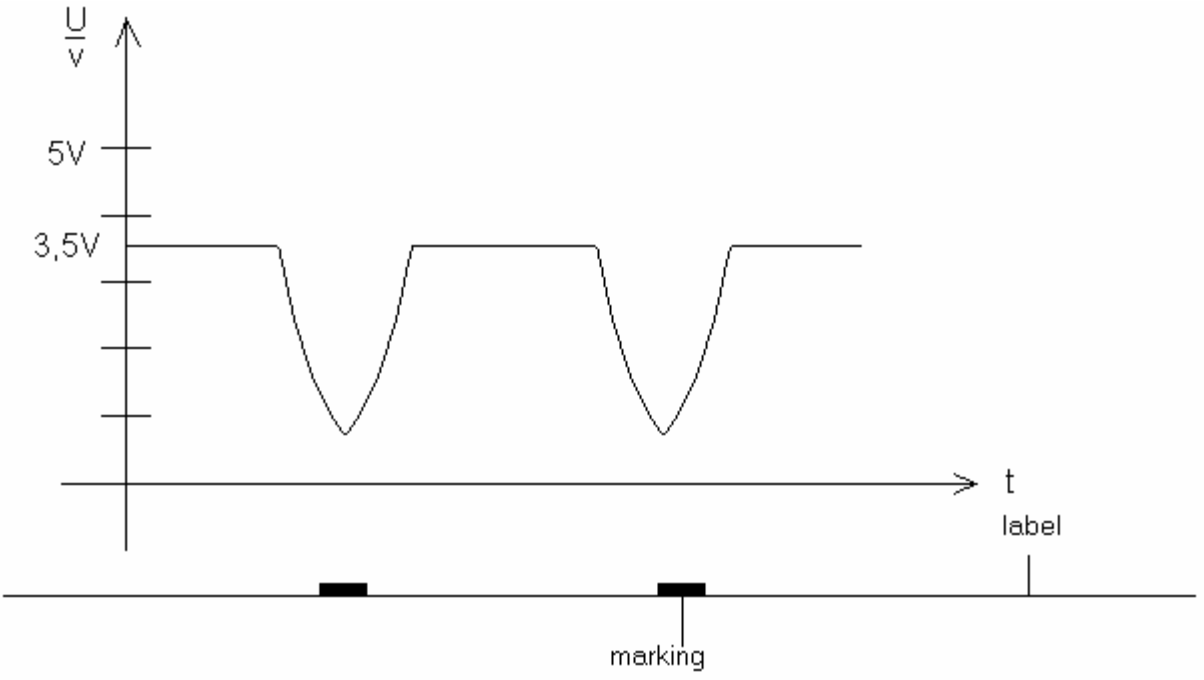


measurement of photocell

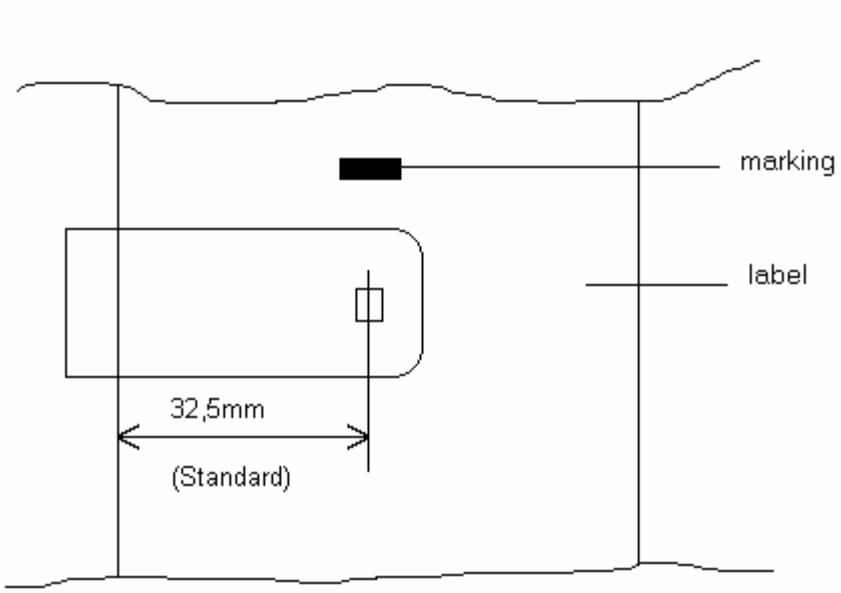
Label photocell reflexion

ST8:	PIN 1	VCC	5V
ST8:	PIN 2	INPUT	see sketch
ST8:	PIN 3	PULL-UP	~ 2V
ST8:	PIN 4	GND	0V

The voltage wave form at "INPUT" is similar to the one described under A and is measurable at ST5 PIN 6 on the CPU.



It has to be considered that the marking for the reflexion photocell must be in a distance of 32,5 mm to the interior rim, so that the photocell recognizes the marking.

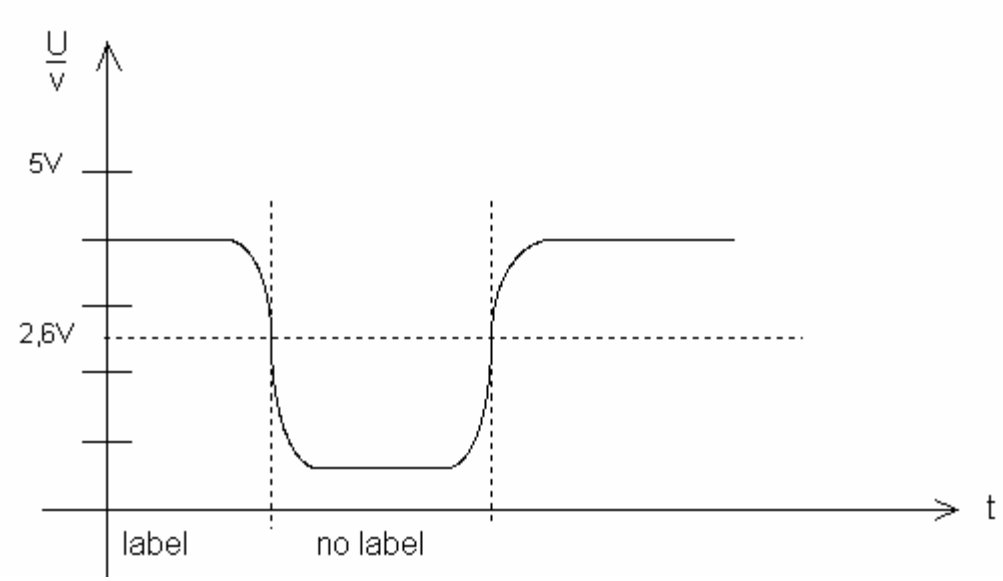


The "INPUT" level can be displayed in menu item "Service functions" (label parameter) under LS: x,x. The marking should have a size of at least 7 mm x 3 mm or bigger.

Dispensing photocell

ST9:	PIN 1	VCC	5V
ST9:	PIN 2	INPUT	see sketch
ST9:	PIN 3	PULL-UP	~ 1,2V
ST9:	PIN 4	GND	0V

The typical voltage wave form at "INPUT" (measurable at ST5 PIN 9) is shown in sketch 3.



As standard a level of 2,5 V is adjusted. If a label is under the dispensing photocell, the level at"INPUT" must be higher than 2,5 V. If the label is removed, the voltage must lower under 2,5 V.

In some cases it is necessary to change the level of the dispensing photocell. This can be done in menu item "Printer initialisation - LS switching level".

The "INPUT" level can be displayed in the menu item "Service functions" (label parameter) under CP: x, x.

Ribbon check

ST10:	PIN 1	VCC	5V
ST10:	PIN 2	IN	High res. Low
ST10:	PIN 3	PULL-UP	~ 1,2V
ST10:	PIN 4	GND	0V

The photocell "Ribbon check" checks whether the ribbon is moving. By that alterate high and low signals are measurable at "IN", which should have a ratio as much as possible of 1:1.

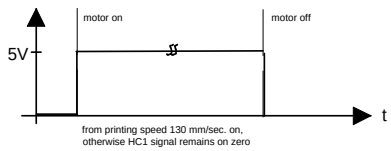
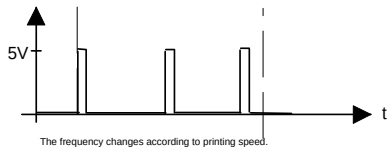
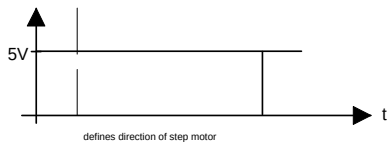
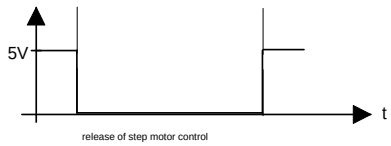
The "IN" level can be displayed in menu item "Service functions" (label parameter) under RCR and is measurable at ST5 PIN 8 on the CPU.

1.7.4. Clock signals

check-point		description		value
U1	PIN 11	CLK	CPU	25 res. 32 MHz
	PIN 12	CLK	CPU	
U30	PIN 15	RESET		0V
	PIN 16	RESET		~ 5V
U1	PIN 24	NMI		0V

1.7.5. Motor signals

Motor for paper feed

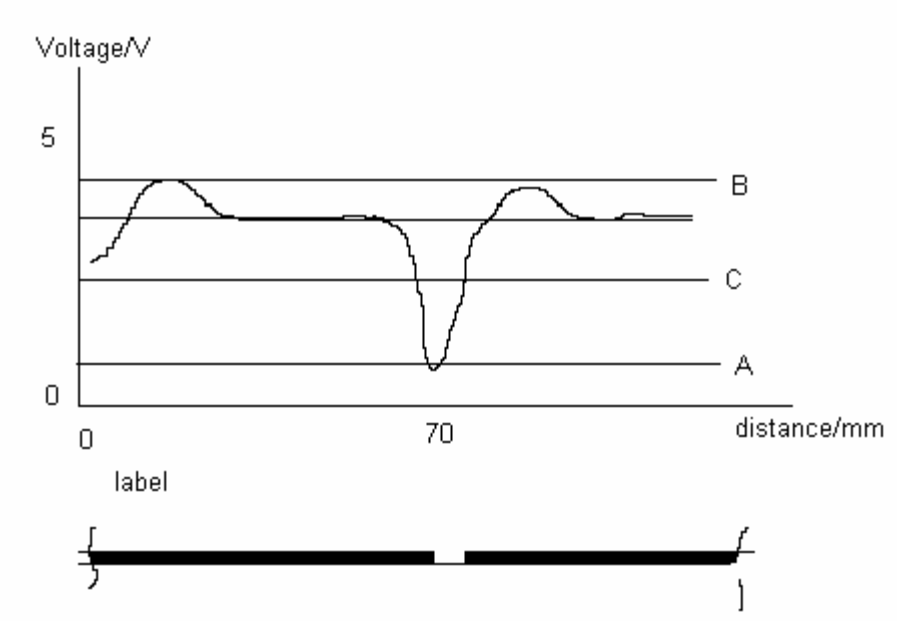
check-point (CPU)		check-point (power supply)		description	value
ST5	PIN16	ST3	PIN16	HC1	
	PIN17		PIN17	CLK1	
	PIN18		PIN18	DIR1	
	PIN19		PIN19	ENABLE1	

1.8. Service monitor

1.8.1. Valuation of label parameters

In function menu "Service functions" you will find the service monitor, by which the photocells can be checked res. adjusted.
When measuring the labels the values will be displayed in the first line, thereby the following measured voltages are shown:

A: absolute minimum (measured on backing-paper)
B: smallest maximum (measured on label)
C: upper/lower switching level



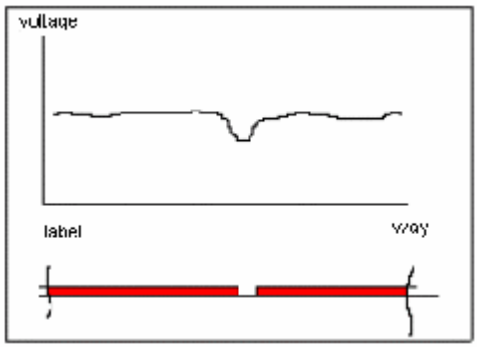
The sketch illustrates the voltage wave form of the label photocell while measuring the label.
The difference between "A" and "B" should be at least 1,5 V.

1.8.2. Error message: label error

Possible reasons of the error message "Label error" are the following:

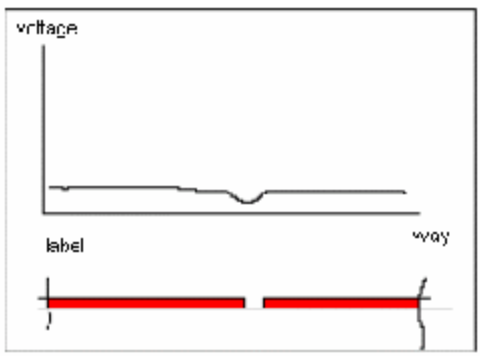
- Too thick res. opaque backing paper

  In this case the value of A will be too high. This means that the printer cannot distinguish between label and backing paper.



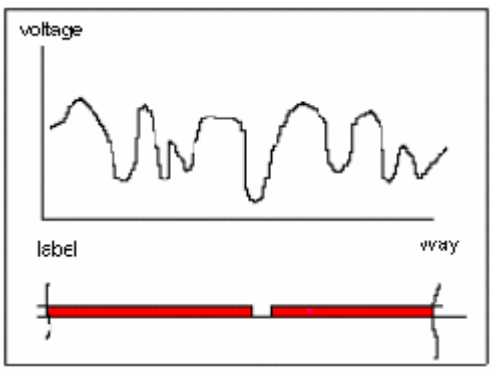
- Very thin label material

  In this case the value of B is too low, so that the printer cannot distinguish between backing paper and label.



- Pre-printed label with strong differences in contrast

  Pre-printed labels are a particular problem. Here the fluctuations of voltage on the label while measuring are very high. In this case the value of B will be very small. In case the difference between B and A is too small, the printer is not able to measure the label.



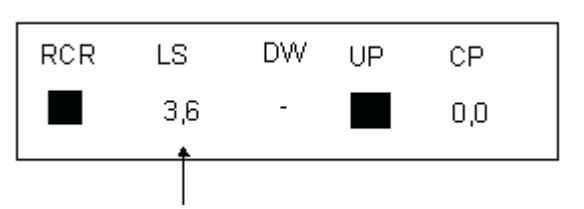
1.8.3. Error elimination

In case the photocell had already been adjusted so that the difference between A and B has received the highest possible value (as described in chapter "1.7.3. Photocells") the "sensitivity of the label photocell" can be adjusted.

1.8.4. Monitor

After activating the key again in menu "Parameter of label photocell" the photocell monitor will be activated.

On the display of the printer the following appears:



The digit represents the measured voltage in volts.

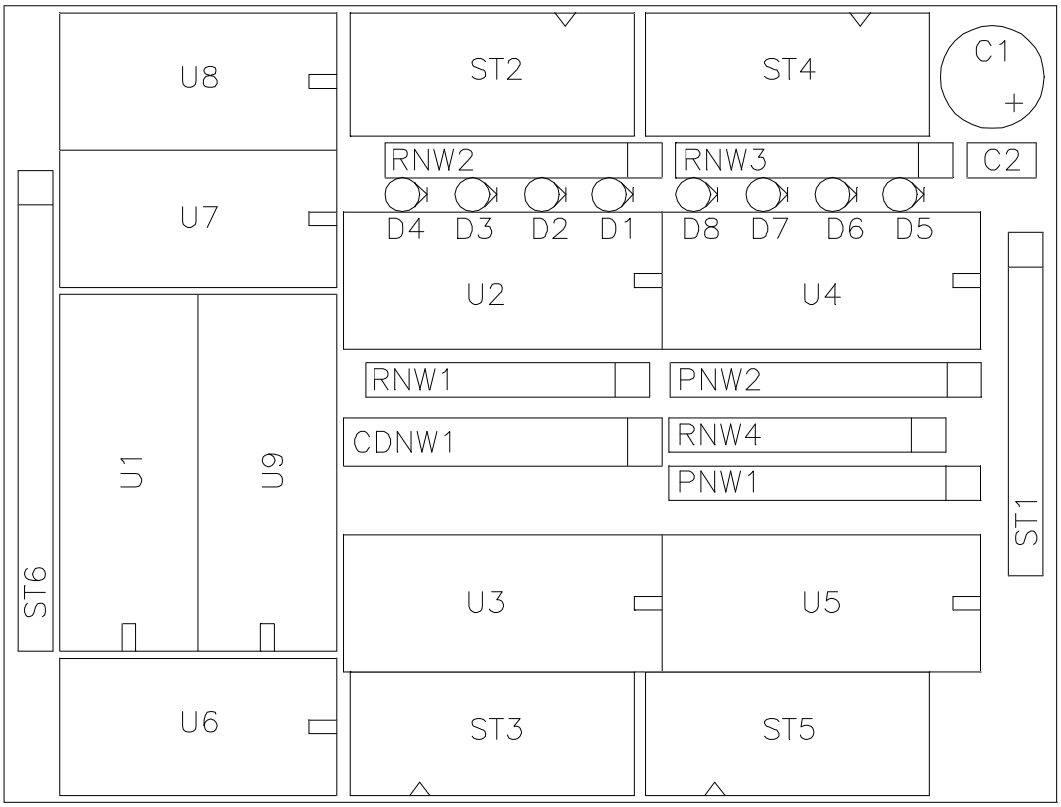
The monitor serves to check the label photocell to its function. As well it is possible to move the label manually under the photocell to get an idea of the voltage wave form and to be able to judge whether the label can be measured.

The difference of backing paper and label should be higher than 1,5 V.

2. Options

2.1. External inputs / outputs

2.1.1. Component parts external I/O's



2.1.2. Installation external I/O's

▷ Connect circuit board with components to the CPU.

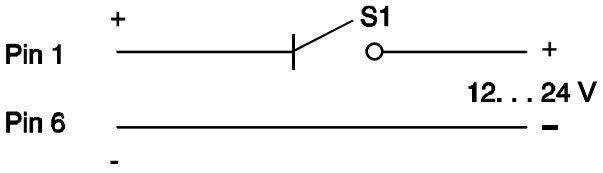
▷ Mount the connecting cable at the rear panel and connect it to the circuit board
(position of connectors on rear panel, see chapter "1.5. Connector assignment rear panel").

A = dispense inputs
B = dispense outputs

2.1.3. PIN assignment of DSUB connections

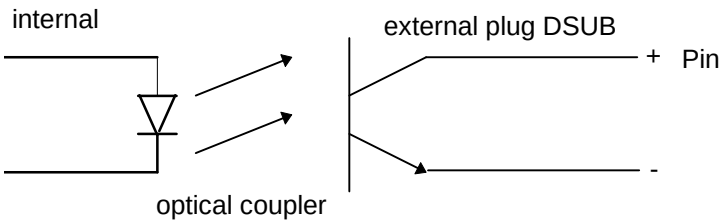
a) Inputs (9-pin DSUB plug)

Pin		description of signal
1	+	INPUT 1
6	-	
7	+	INPUT 2
2	-	
8	+	INPUT 3
9	-	
4	+	INPUT 4
3	-	



b) Outputs (9-pin DSUB receptacle)

Pin		description of signal
9	+	OUTPUT 1
5	-	
8	+	OUTPUT 2
7	-	
6	+	OUTPUT 3
2	-	
4	+	OUTPUT 4
3	-	

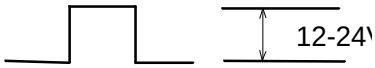
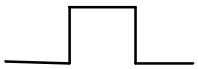
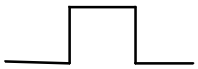
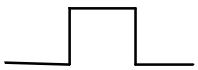
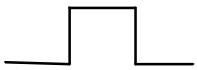
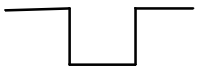
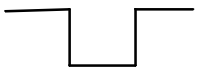
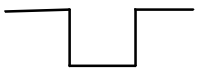
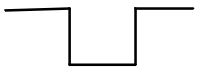


The in- and outputs are galvanic separated and have to be fed by external power supplies.
In function menu "Service functions" the in-/outputs can be checked.

```
IN-12345678  OUT-12345678
   ----------      ----------
```

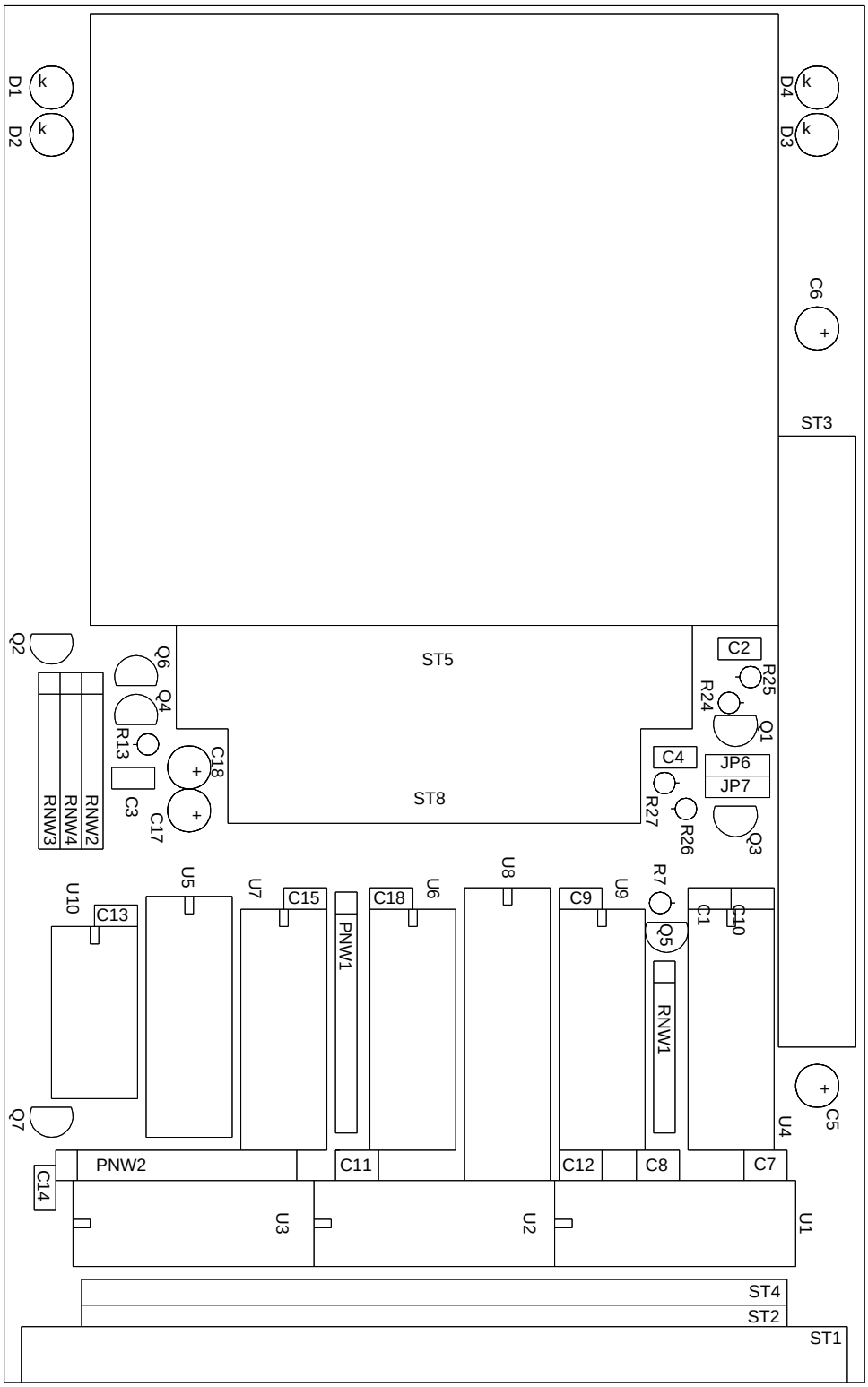
In case an input is activated this will be shown in the display. If an output is to be activated this can be done by pressing the key of the desired output (e.g. activation of output 3, press key 3).
The output is deactivated by pressing the key again.

2.1.4. Check-points

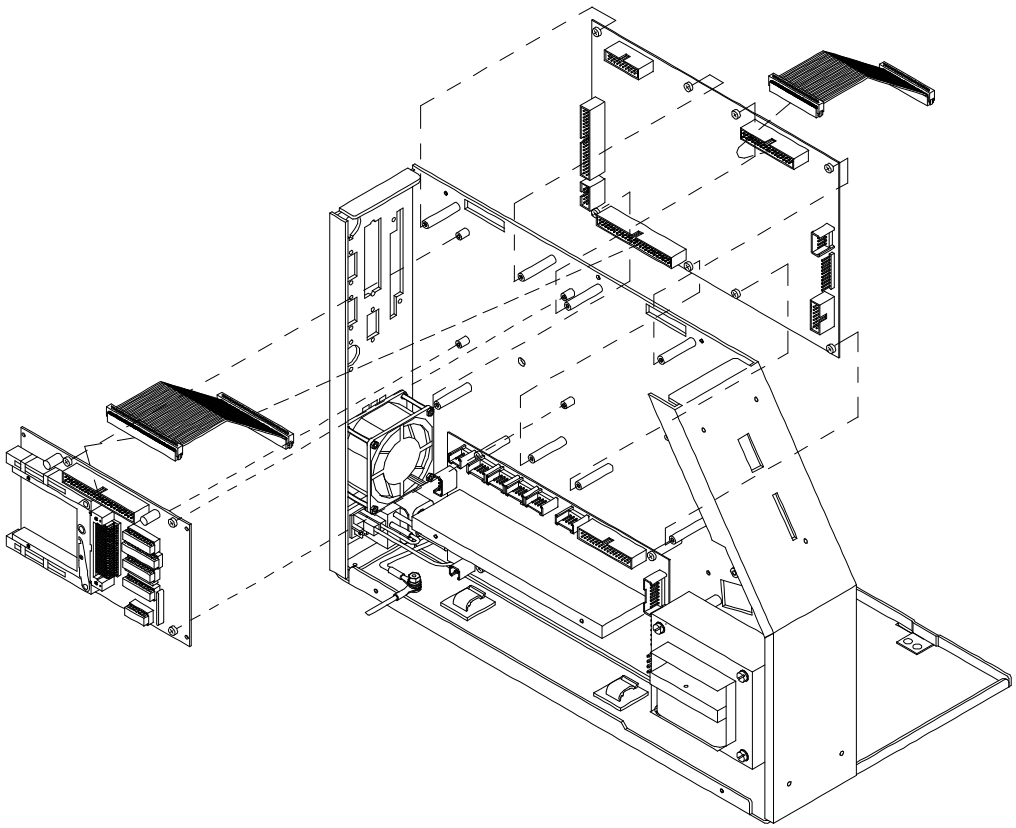
check-point		description	value
4 x IN (1 - 4)		ext. input impulse	
U6	PIN2	INPUT 1	
	PIN4	INPUT 2	
	PIN6	INPUT 3	
	PIN8	INPUT 4	
4 x OUT (1 - 4)			
U3	PIN2	OUTPUT 1	
	PIN3	OUTPUT 2	
	PIN6	OUTPUT 3	
	PIN7	OUTPUT 4	

2.2. PC-Card

2.2.1. Component parts PC-Card



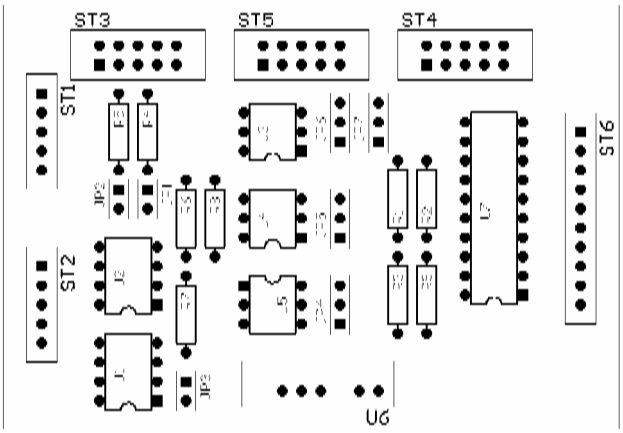
2.2.2. Installation PC-Card



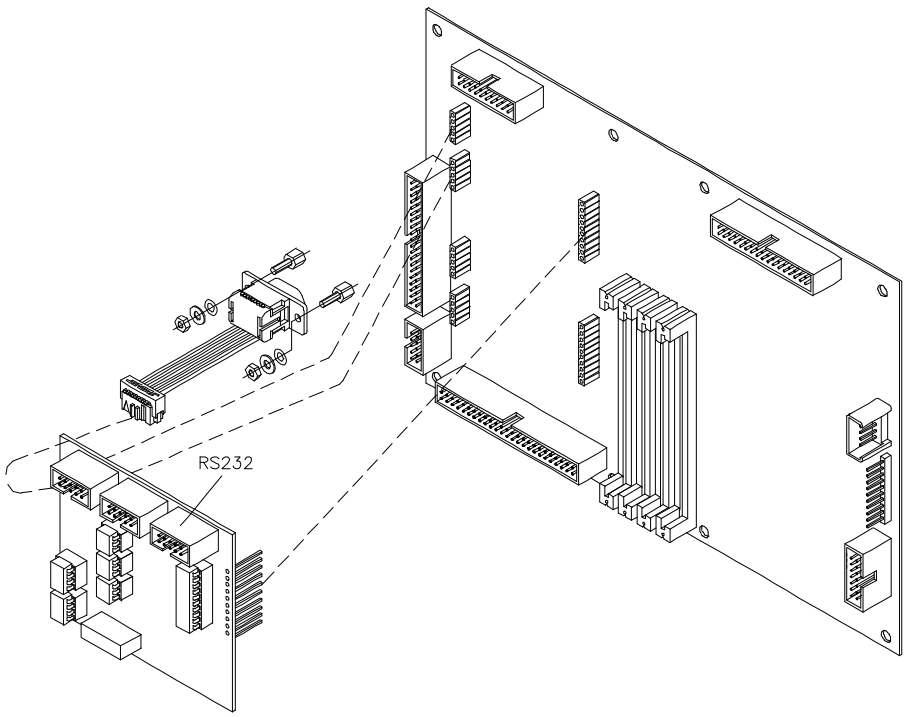
- ▷ Switch off the printer.
- ▷ Open cut-out of rear panel for PC-Card board.
- ▷ Install PC-Card board (see sketch) and insert connecting cable.

2.3. RS 485

2.3.1. Component parts RS 485

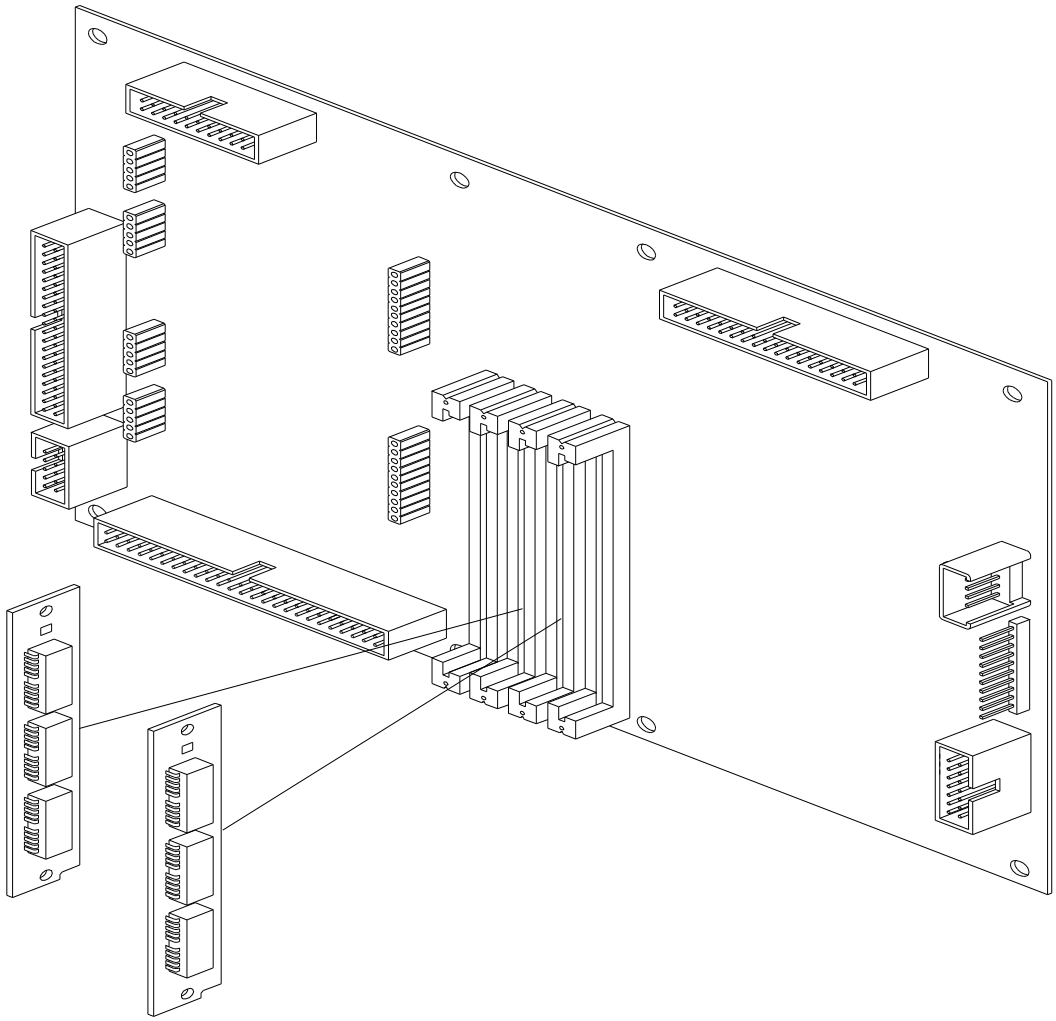


2.3.2. Installation RS 485



- ▹ Connect circuit board with components on CPU (see sketch above).
- ▹ Screw connecting cable to rear panel (position of RS 232) and connect it to circuit board (position of connecting plug on rear panel see chapter "1.5. Connector assignment rear panel").

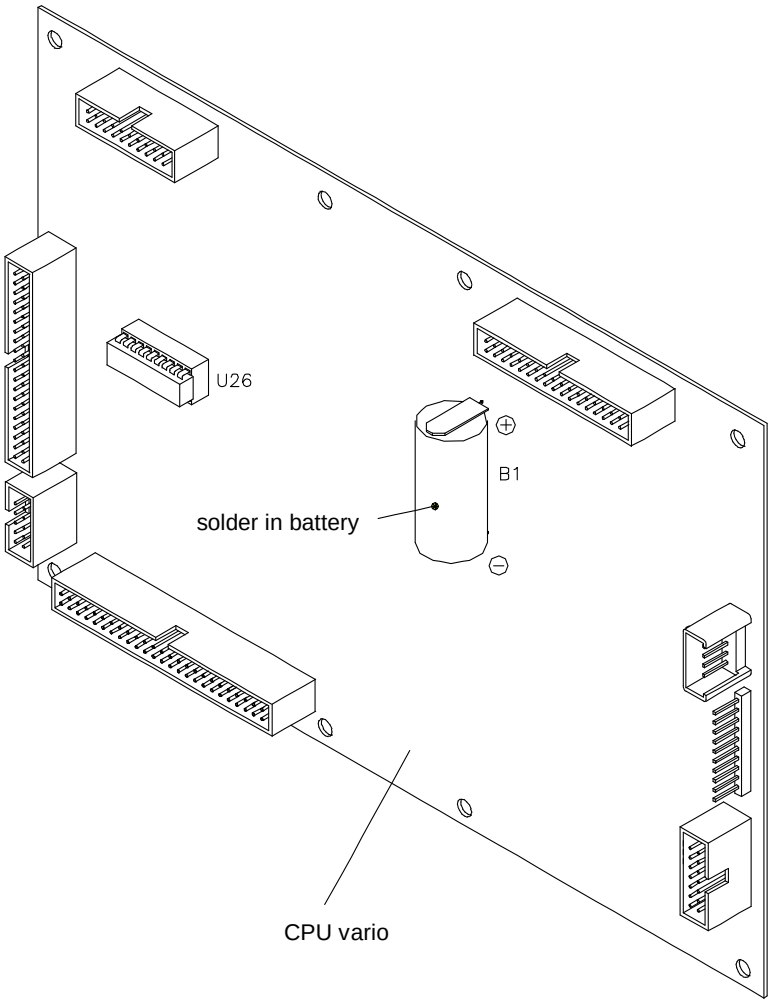
2.4. Extension of RAM



Installation:

- ▷ Switch off the printer.
- ▷ Insert SIMM modules into socket.
  The modules always have to be installed in pairs, either in the two inner or the two outer plugging positions.

2.5. Date/Time

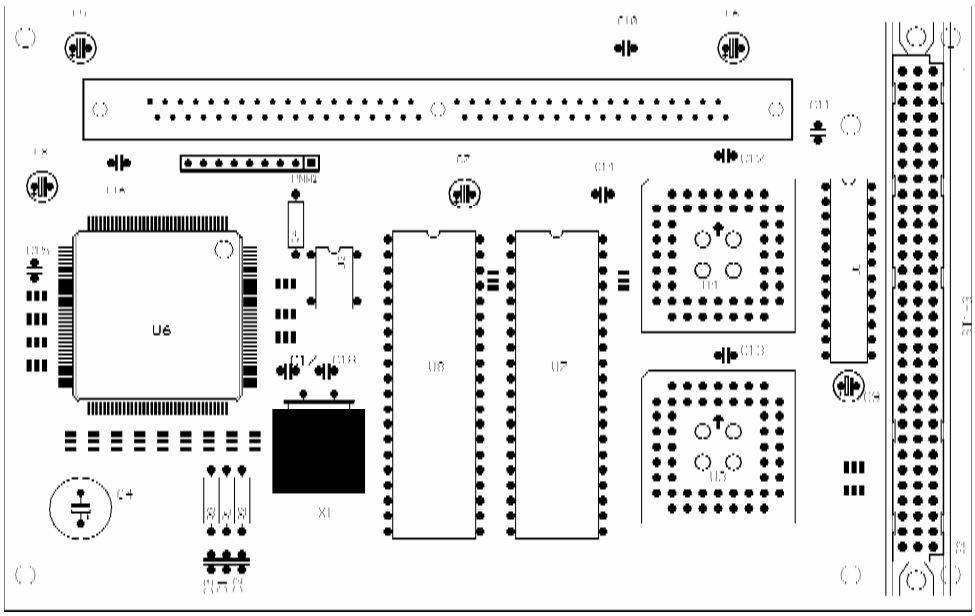


Installation:

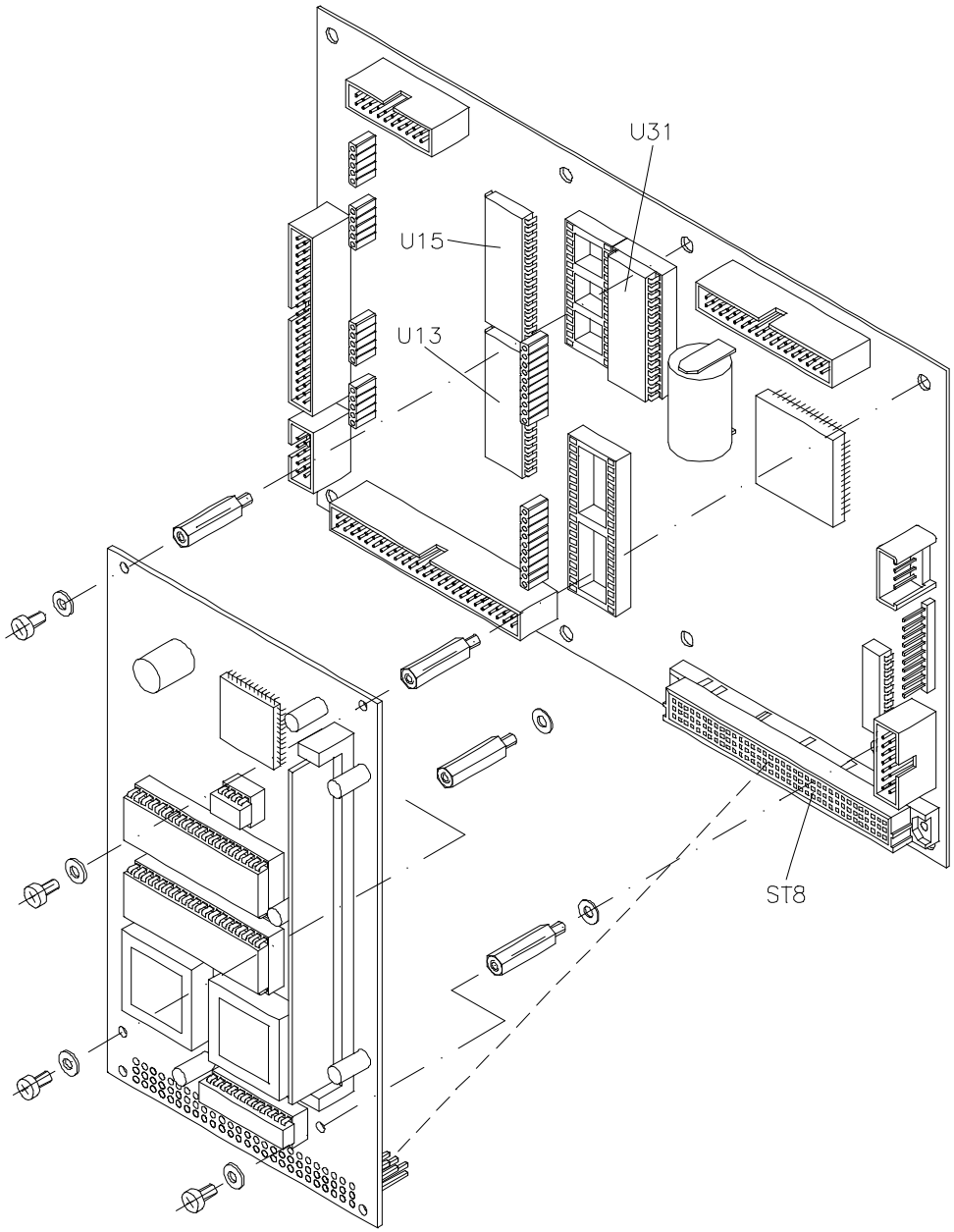
- ▷ Switch off printer and remove CPU.
- ▷ When soldering in battery B1 pay attention to direction of polarization!
- ▷ Insert RTC 72421A in socket (note the marking PIN1!).
- ▷ Reinstall CPU and set the time in menu item "Date/Time" (see operating manual).

2.6. Extension of RISC

2.6.1. Component parts RISC



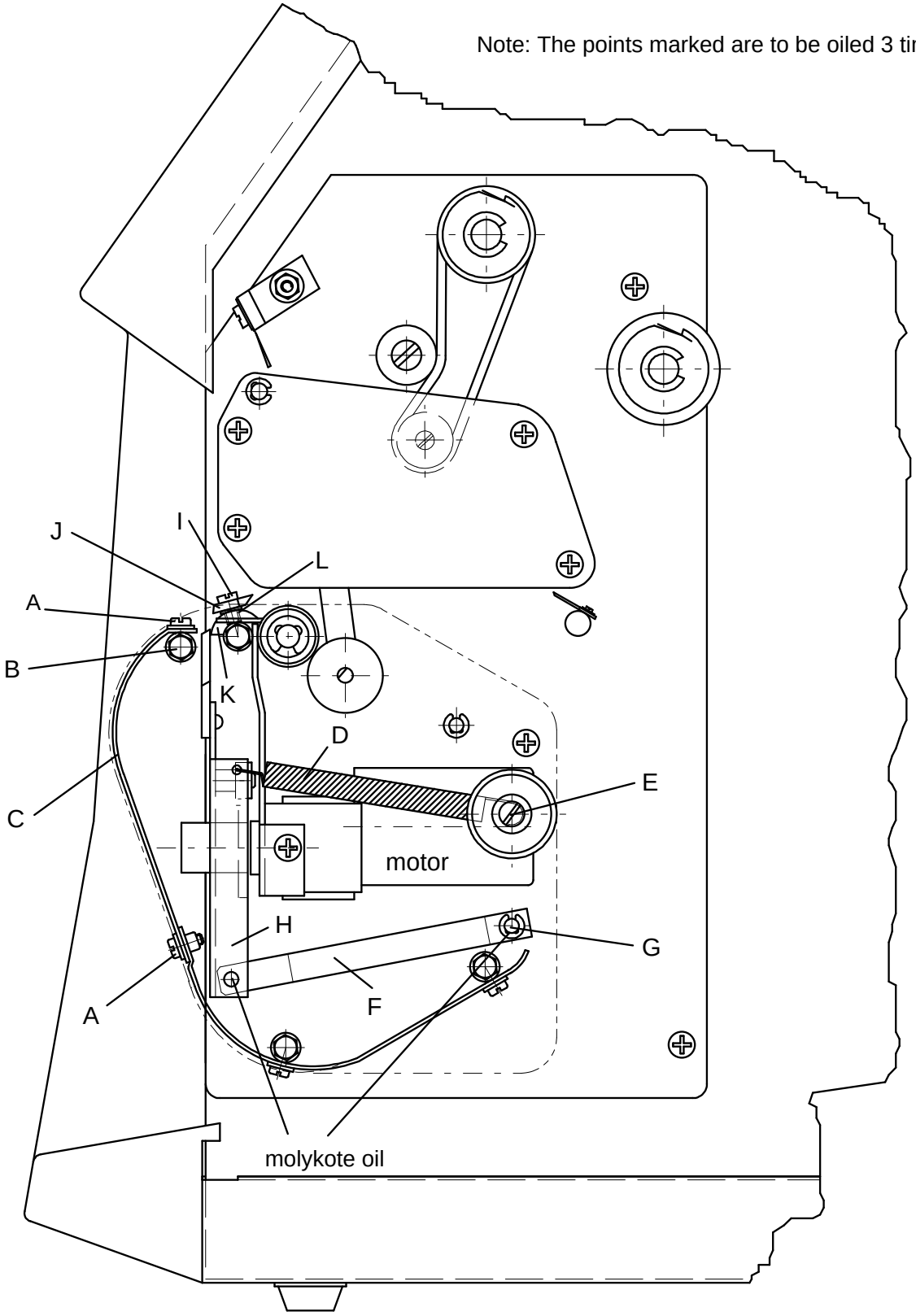
2.6.2. Installation RISC



- ▹ Switch off the printer.
- ▹ Remove components U15 and U13.
- ▹ The font Eprom U31 may as well be removed as the RISC processor disposes of an own font Eprom.
- ▹ Loosen mounting screws at the board and screw in spacers.
- ▹ Put RISC board into socket ST8 and fix it with mounting screws.
- ▹ Switch on the printer.
  Besides the printer type the display additionally shows the identification '++' for the RISC processor.

2.6.3. Moveable cutter / exchange of cutting ledge

Note: The points marked are to be oiled 3 times a year !



Attention: Danger of injury while working at the cutter!

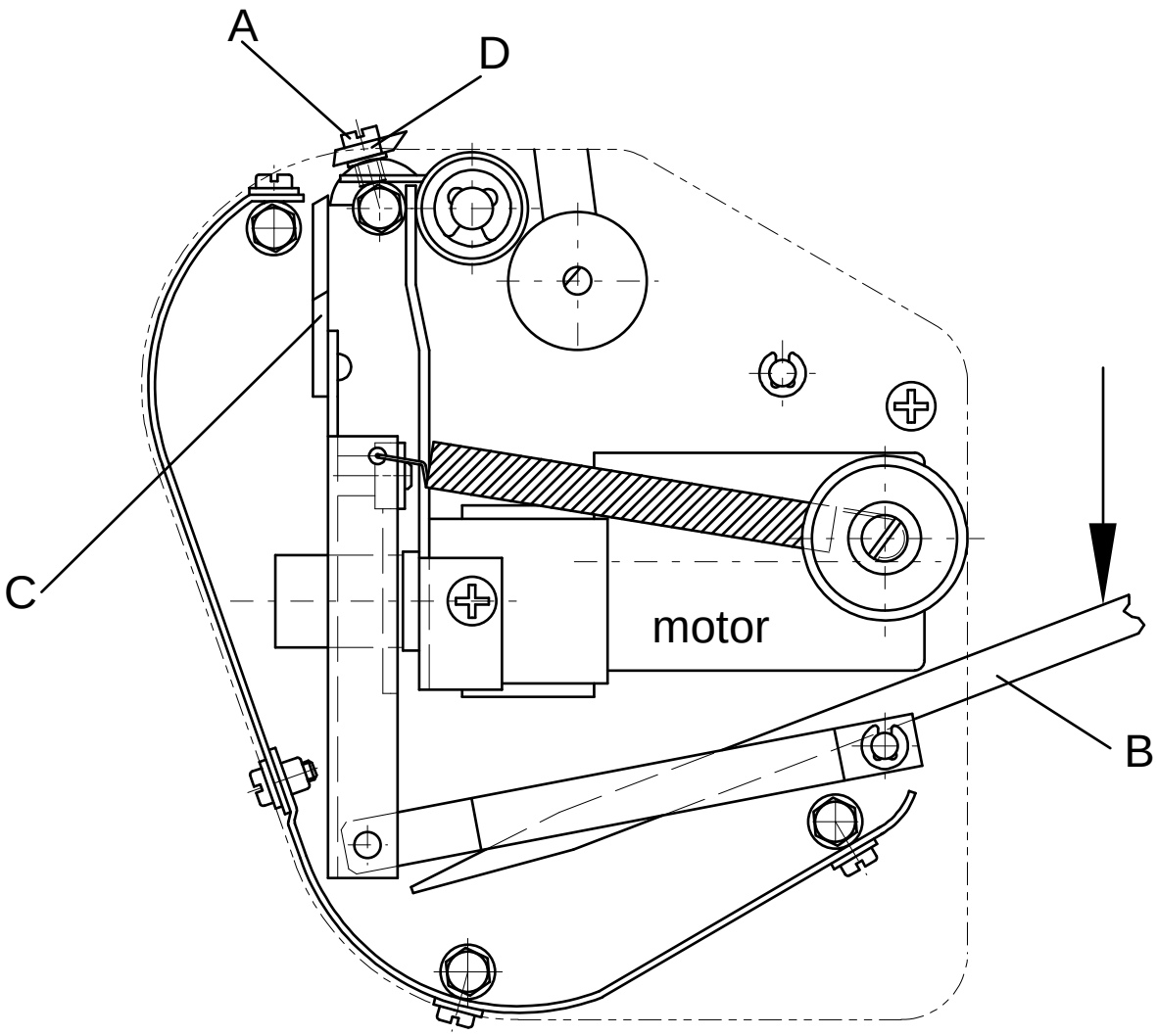
- ▷ Switch off machine, plug out!
- ▷ Open right cover.
- ▷ Remove 4 screws (A) and take off front plate above (C).
- ▷ Remove nut (B) and take off holding shaft.
- ▷ Fix spring (D) at magnetic adjusting screw (E).
- ▷ Take off locking washer of the inner side of bearing lever of cutter (F).
- ▷ Pull bearing shaft (G) outwards.
- ▷ At the same time take off the complete moveable cutter (F + H) to the front.
  Attention: Do not loose 2 spacer rings on the bearing shaft!
- ▷ Remove two screws (I).
- ▷ Take off cutting ledge (J).

Attention:
- Pay attention to position of slide bearing (K) with integrated intermediate (L), in case they will loosen.
- On the right side of the cutting ledge the intermediate loosens too.
  Pay attention to position.

Installation:

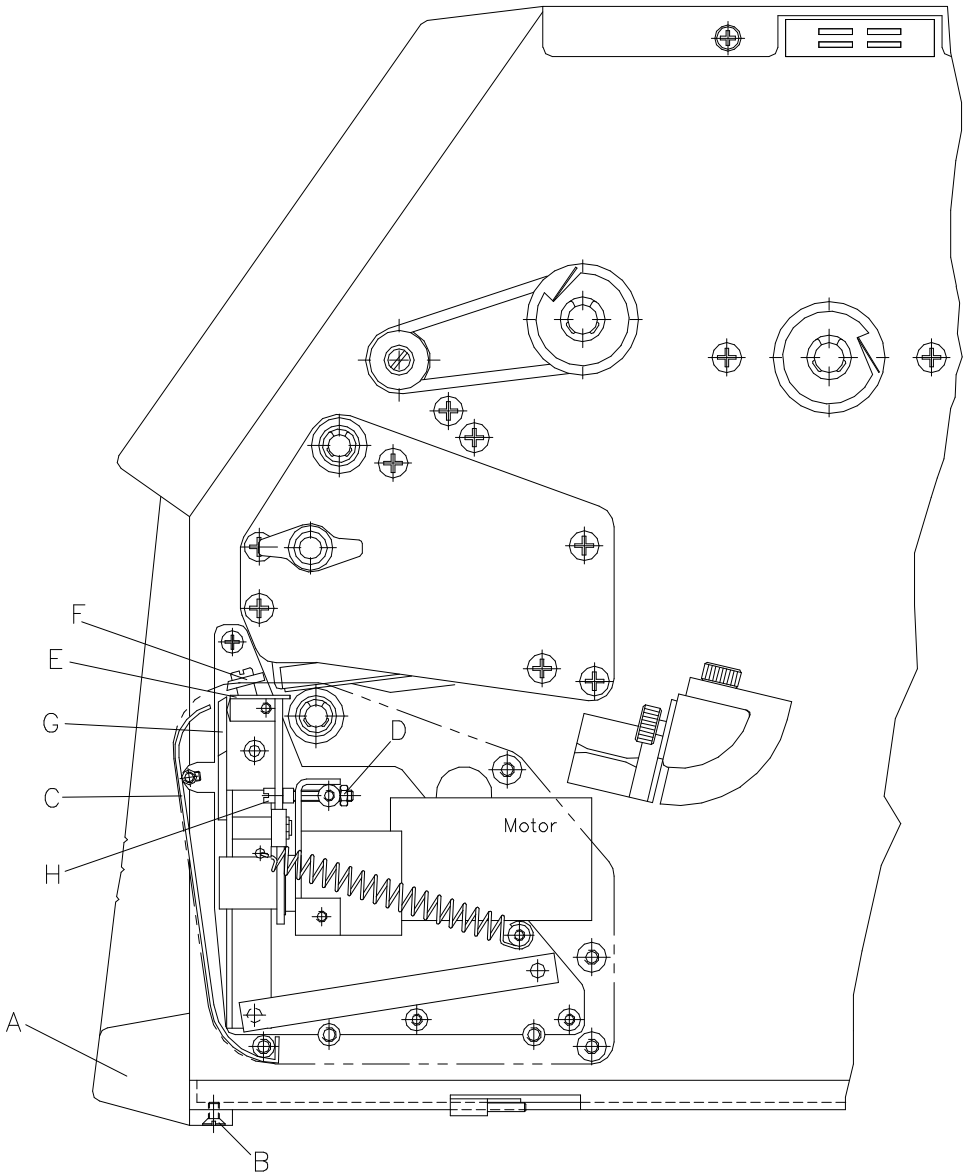
- ▷ Install (sharpened) cutter in opposite order.
- ▷ Adjust cutter according to chapter "2.6.4. To adjust cutter".

2.6.4. To adjust cutter



- ▹ Switch off machine, plug out!
- ▹ Open right cover.
- ▹ Loosen 2 screws (A) about 1 rotation.
- ▹ Insert screwdriver (B) according to sketch. (control: While pressing down the screwdriver the moveable cutter (C) has to move upwards.)
- ▹ Press down screwdriver, so the left upper edge of the moveable cutter (C) stands about 0,5 mm above the lower edge of the cutting ledge (D).
- ▹ Move the cutting ledge (D) towards the moveable cutter (C) and fix both screws (A) again.
- ▹ Insert a piece of paper or label and check with the screwdriver, if the cutter cuts correctly. If not, repeat the steps.

2.6.5. To adjust cutter ledge



Caution: Danger of injury while working at the cutter!

- ▹ Switch off printer, plug out!
- ▹ Remove small front panel (A) after removing the 2 screws (B).
- ▹ Take off the 2 countersunk screws at the front panel (C) and remove it.
- ▹ Loosen counternut (D).
- ▹ Insert a piece of paper or labels between lower plate (E) and fixed cutter ledge (F), then manually push the movable cutter ledge (D) upwards and control the cutting.

Attention: The cutter has to start cutting approx. 5 mm from the left edge of the fixed cutter ledge.

▷ **The cutter cuts further on the right side:**
Tilt the movable cutter ledge (G) to the front (Caution: danger of injury!) and turn adjusting screw (H) in clockwise direction until the nominal position is reached. Push back the cutter ledge.

▷ **The movable cutter ledge (G) strikes the fixed cutter ledge (F):**
Tilt the movable cutter ledge (G) to the front **(Caution: danger of injury!)** and turn adjusting screw (H) against clockwise direction until the nominal position is reached. Push back the cutter ledge.

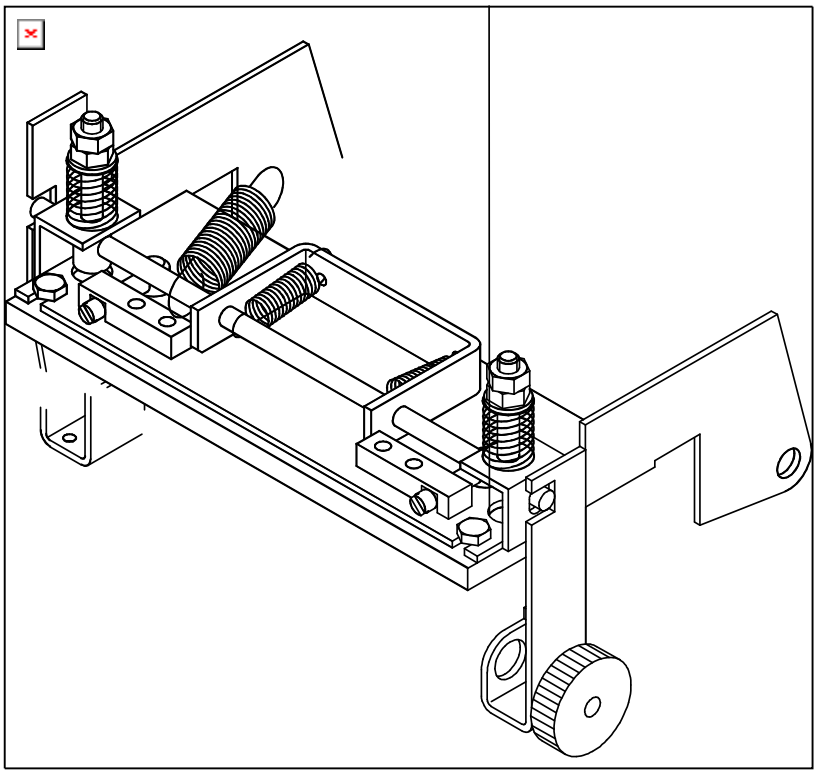
▷ Tighten counternut (D).

▷ Reinstall front panel (C) and small front panel (A).

▷ Turn on printer and test cutter function.

3. Mechanics

3.1. Exchange of printhead



Attention: For exchange of printhead the ESD regulations have to be observed!
Before working at the printhead you have to accomplish safety control against electrostatic charge!

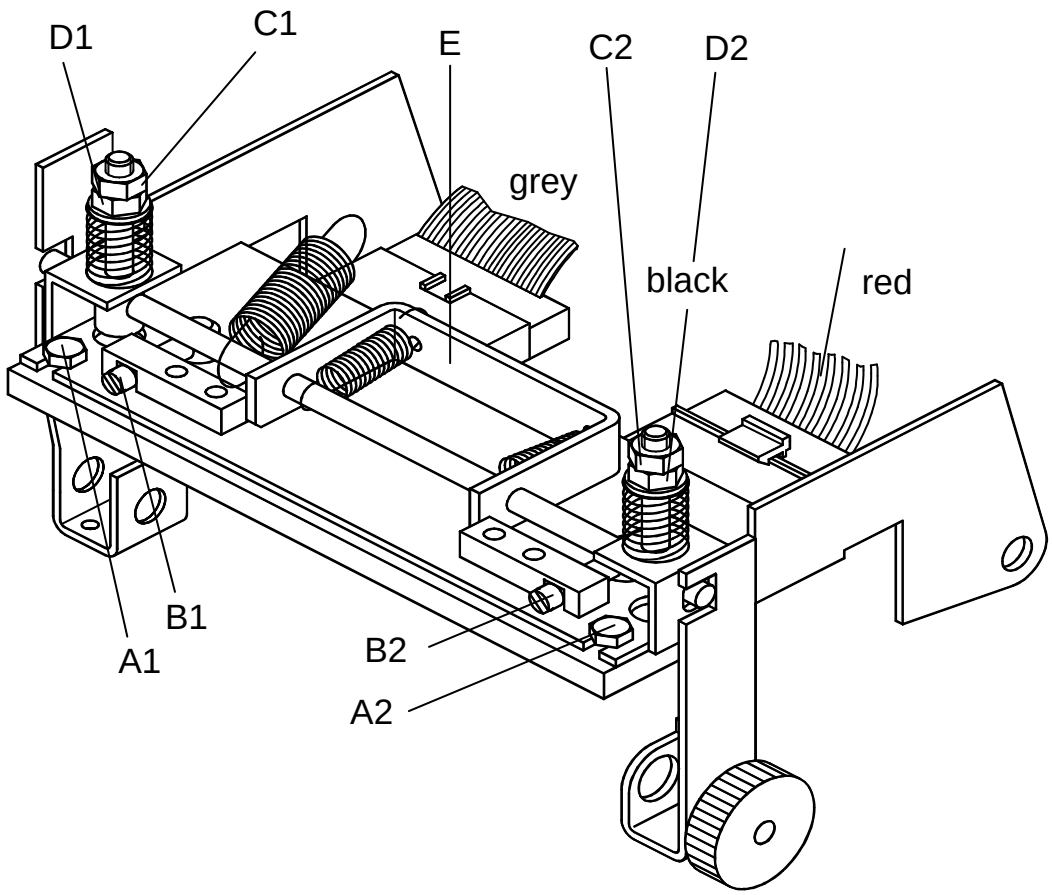
- ▹ Switch off machine, plug out!
- ▹ Lift printhead bracket with printhead by turning knurled knob (A) clockwise.
- ▹ Pull off printhead plug (B1, B2) including cables.
- ▹ Considering machines with dispenser: screw off dispenser photocell.
- ▹ Unscrew screws (C1, C2) about 3 rotations by a ring spanner, thereby pay attention to the position of printhead for the purpose of reinstallation.
- ▹ Press latch lever (D) backwards and draw off printhead (E) to the front.

Installation:

- ▹ Install the new printhead with placed screws (C) in opposite order.

Attention:
- Do not touch the contacts of the printhead!
- While installing pay attention, that thermistor cable lies in the cut-out provided for.
- Pay attention to the correct fit of the printhead (guiding).

3.2. Adjustment of printhead



3.2.1. Parallelity

- ▹ Loosen screws (A1, A2) about 1/2 rotations with ring spanner.
- ▹ Adjust parallelity by screws (B1, B2).
- ▹ Depending on the print quality adjust more, until the print quality is correct.
- ▹ Tighten screws (A1, A2) again.

3.2.2. Pressure

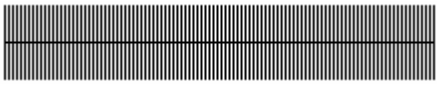
Avoid increase of printhead pressure as much as possible, because a pressure too high damages the printhead and decreases its life time.

Print quality too faint (even when using highest contrast):
Release lever (E) or after loosening counter nuts (C1, C2) increase the pressure with adjusting nuts (D1, D2).

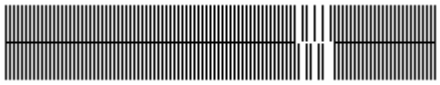
3.3. Cleaning of printhead and pressure roll

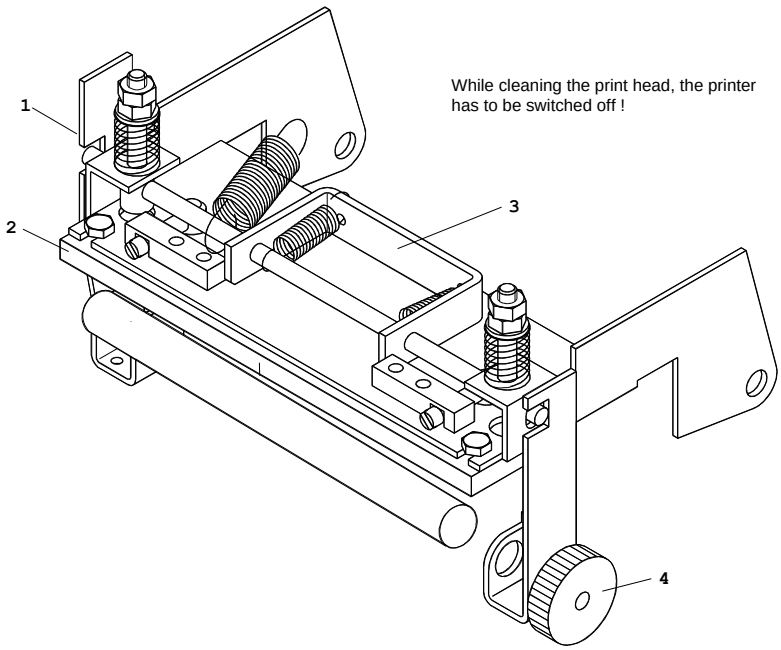
Principally it is advisable and necessary to clean the printhead in regular intervals depending on the printer's operating hours and its environment (e.g. dust etc.).
With a test print it can be easily found out whether the printhead is soiled or defective.

a) printhead is o.k.



b) printhead is defective/soiled





- ▷ Turn up printhead bracket by the rotary button (4) as if loading labels.
- ▷ Press lever (1) to the back.
- ▷ The printhead (2) automatically turns up. If this does not happen please turn up the printhead carefully.
- ▷ Clean the lower surface of the printhead only with spirit or dry cleaning solvent. As expedient a close-woven cotton cloth is recommended. In case this procedure is not sufficient the printhead can be cleaned with a special cleaning foil (to be obtained from us).
- ▷ After cleaning clap the printhead down until lever (1) snaps again.

Attention: Scratching, strong rubbing of using of hard subjects for cleaning is absolutely to be avoided, as the printhead is very sensitive.

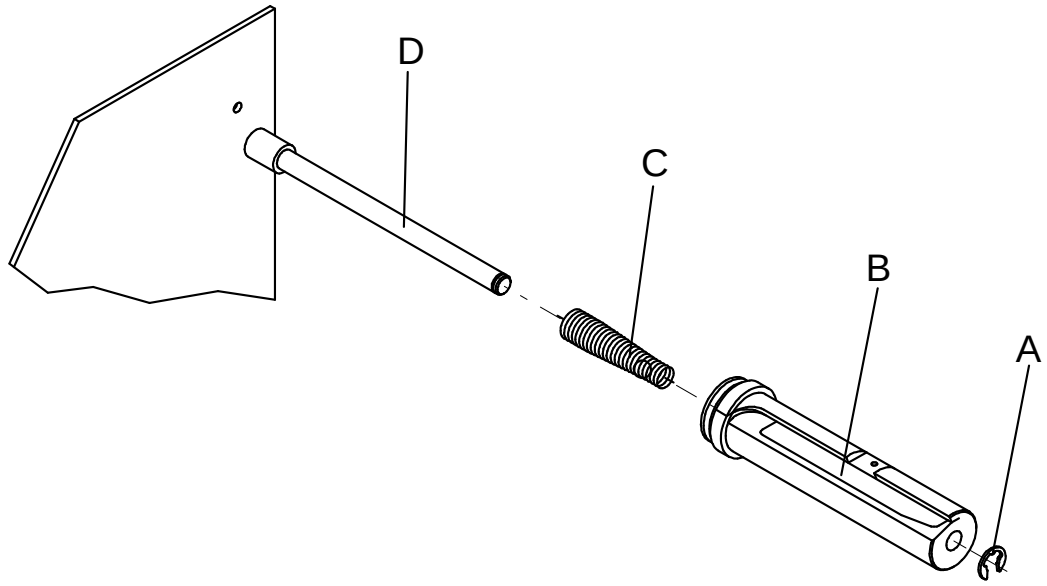
Cleaning of pressure roll:

In certain intervals the pressure roll has to be cleaned with spirit (dust, soil etc.).

Increase pressure:

In case of insufficient quality of print, pull up lever (3) (e.g. when using carton, thick label material or very small fonts).

3.4. Exchange of ribbon unwinding roll

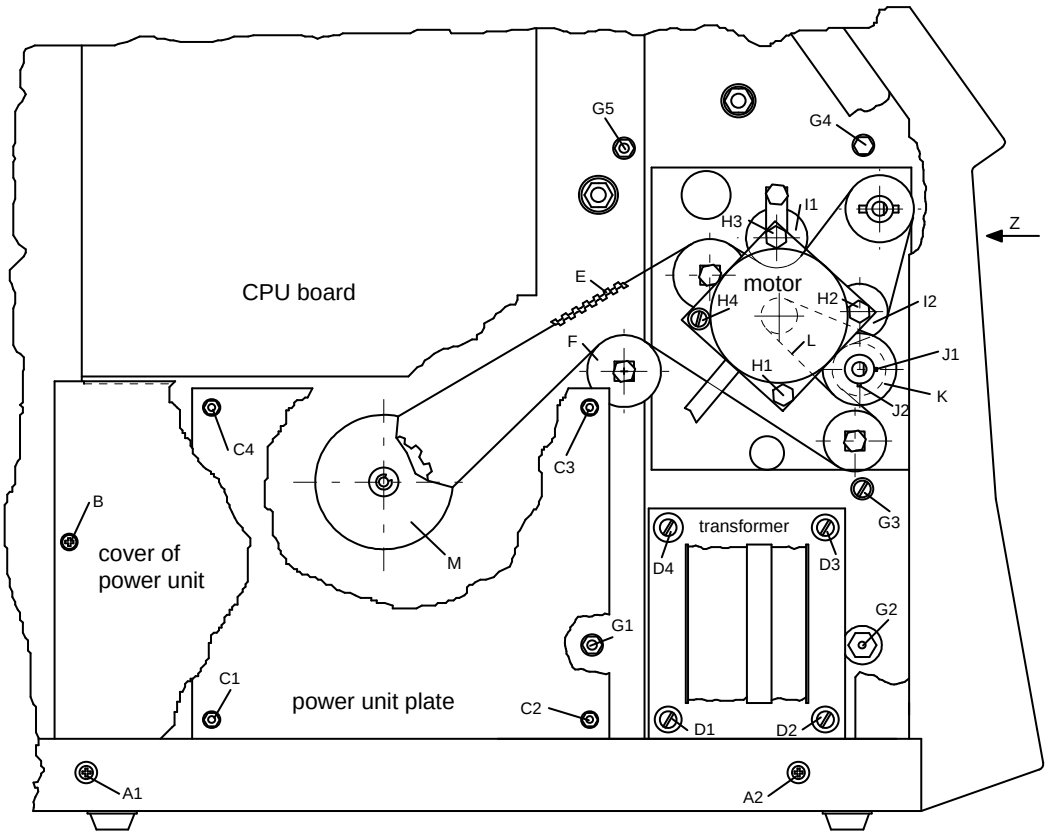


- ▷ Switch off machine, plug out!
- ▷ Take off locking washer (A).
- ▷ Turn roll (B) clockwise and pull it outwards the pillar (D) at the same time.
  Attention: Danger of injury at thin spring steel plate.
- ▷ In case spring (C) remains in unwinding roll, pull it outside with rotary motion at the same time.

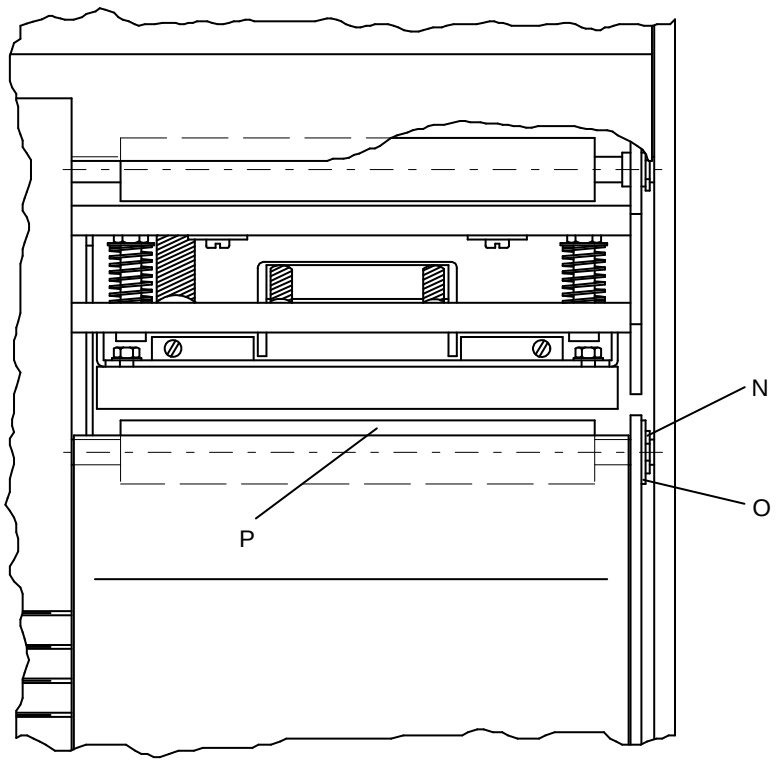
Installation:

- ▷ Lubricate pillar (D) and push spring approximately to the middle of the pillar (if possible a new one)
- ▷ Lubricate spring from outside.
- ▷ Turn the ribbon unwinding roll by clockwise rotations onto the spring.
  After approx. 10 rotations press the roll far inside and fix locking washer.

3.5. Exchange of pressure roll



View Z:



In connection with the exchange of the pressure roll, the complete printer mechanics should be oiled and lubricated (see chapter "3.10. To oil and lubricate"), as the lubrication points are free accessible after the following instructing steps.

- ▷ Switch off machine, plug out!
- ▷ After removing screws (A1, A2), take off left cover.
- ▷ After removing 4 screws (B), only one is displayed, take off cover of power unit.
- ▷ Pull off all cable plug connectors from power unit plate.
  Attention: Pay attention to the position of the plugs for the purpose of reinstallation!
- ▷ After removing nuts (C1 - C4), take off power unit plate.
- ▷ Loosen screws (D1 - D4) and take off transformer.
- ▷ Pull off cable plug connectors JP9 / JP10 / JP12 / JP14 / (JP11) from CPU board.
  (Specifications see circuit board and cable)

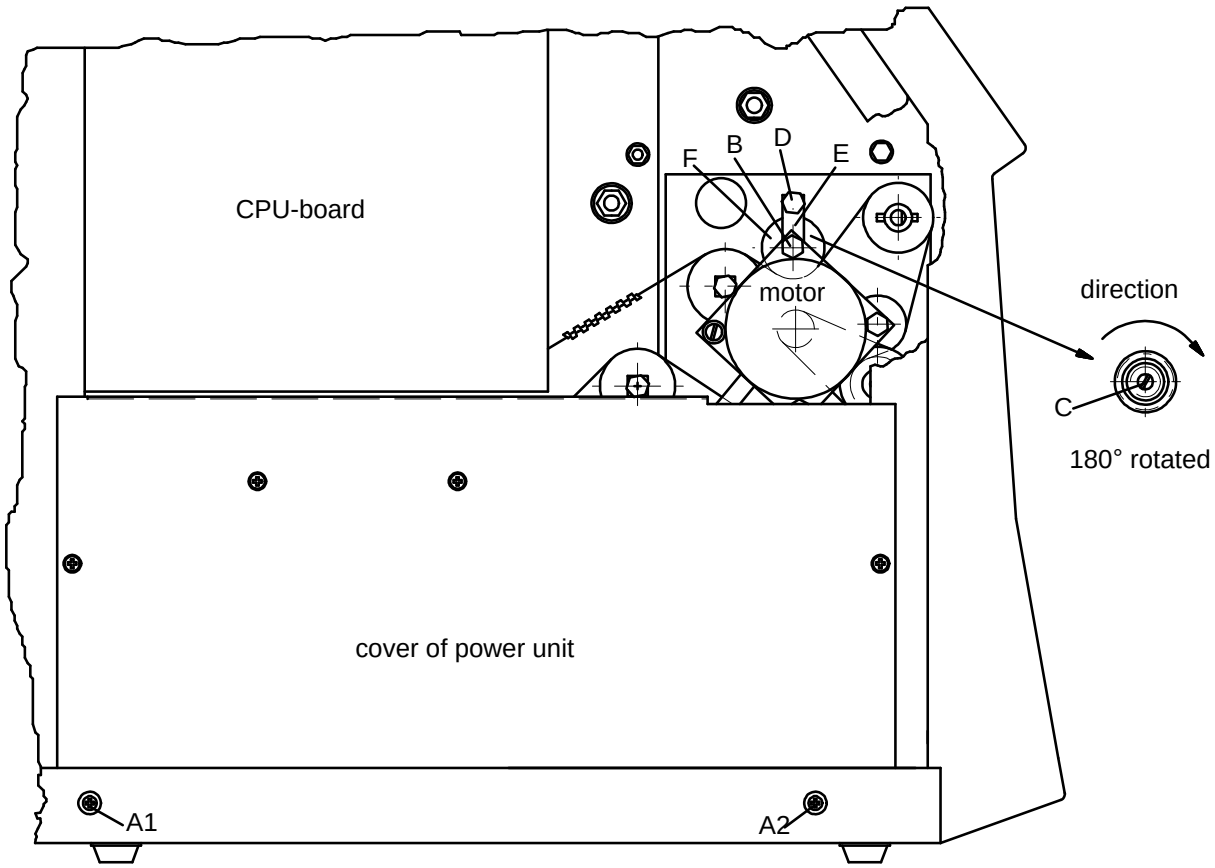
  Attention: In spite of specification pay attention to the position of the plugs for the purpose of reinstallation!
- ▷ Pull off cogged belt (E) from return pulley (F) and remove it from rewinder (M).
- ▷ After removing the hexagonal head screw take off return pulley (F). Therefore hold return pulley at the opposite side and take it off, too.
- ▷ After removing nuts and screws (G1 - G5) take off the complete print mechanics to the right hand side.

  Attention: While screwing off the nuts and screws pay attention to the print mechanics, so it will not fall down.
- ▷ After removing screws (H1 - H4) take off the motor. Thereby remove short cogged belt (L).
  Attention: While taking off the motor, the two Delrin belt drives (I1, I2) will be loosened.
- ▷ Loosen locking screws (J1, J2) and take out pair of belt drives (K) with spacer piece and ball bearing.
- ▷ Take off locking washer (N) and ball bearing (O) on the other side of the shaft. Then take out downwards pressure roll (P) of the print mechanics.
- ▷ As much as possible clean the ball bearing in dry cleaning solvent and then lubricate new!
- ▷ Oil and lubricate the complete print mechanics according to chapter "3.10. To oil and lubricate".
- ▷ If necessary the upper ribbon tension roll can be exchanged at the same time (see chapter "3.4. Exchange of ribbon unwinding roll").

Installation:

- ▷ Installation of the new roll and reinstallation of all components in opposite order.
- ▷ Regard that locking screw (J1) meets milled surface of the roll.

3.6. Exchange of synchroflex drive



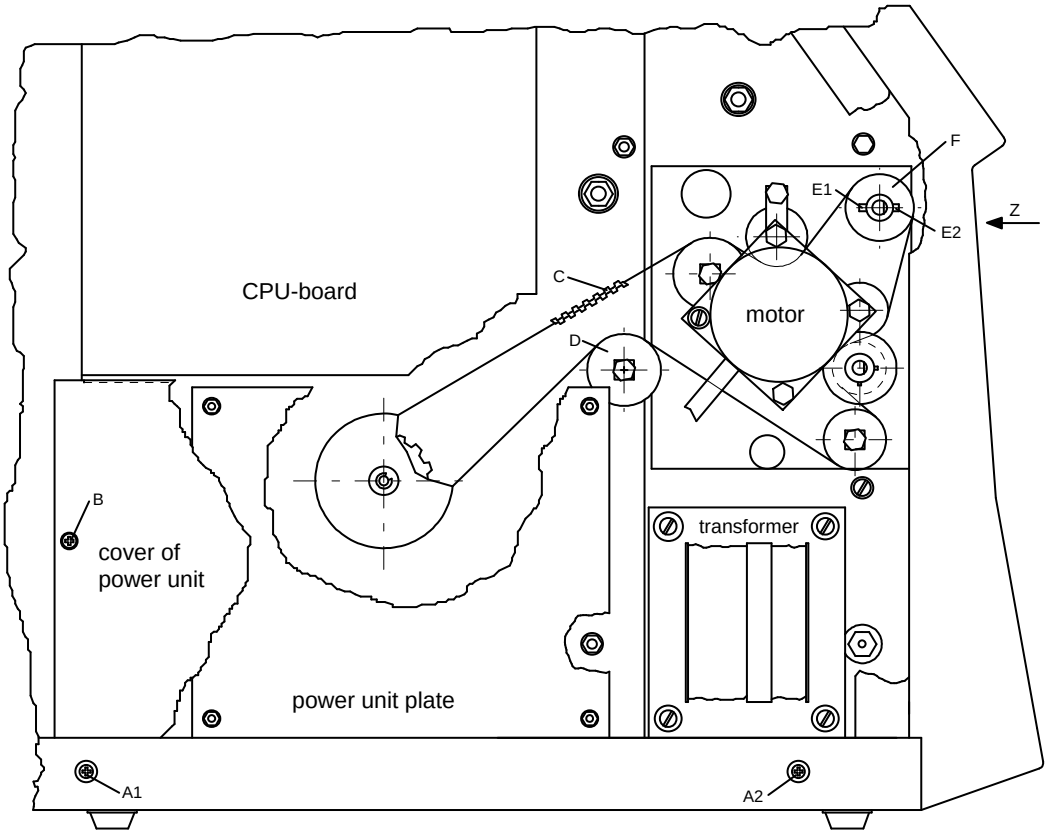
- ▷ Switch off machine, plug out!
- ▷ Take off left cover upwards after removing both screws (A1, A2).
- ▷ Remove screw (B), thereby hold bed bolt (C) with a slotted screwdriver on the opposite side.
- ▷ Remove screw (D) together with bracket (E).
- ▷ Take out synchroflex drive (F), whereby at the same time you have to take off the O-belt from the driving gear on the inner side of the print mechanics.

Installation:

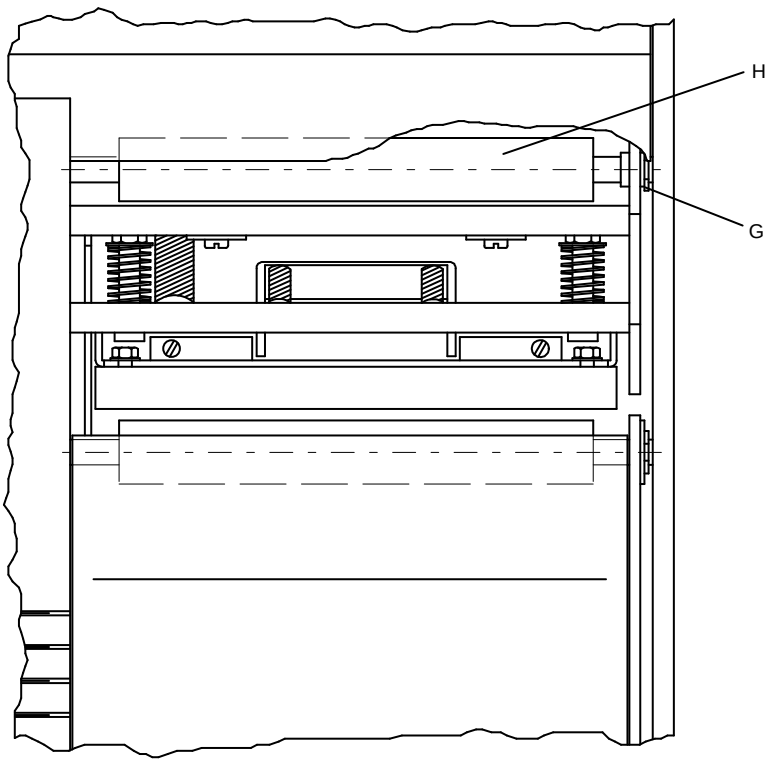
- ▷ Installation of the new drive and reinstallation of all components in opposite order.
- ▷ While installing pay attention to the correct fit of the belts.
- ▷ Insert the synchroflex drive centric into the boring provided for, otherwise it will grind.

Attention: The integrated grooved ball bearing has to catch the cogged belt drive clockwise (according to the sketch).
Otherwise, place cogged belt drive with the bearing the other way around.

3.7. Exchange upper ribbon tension roll



View Z:

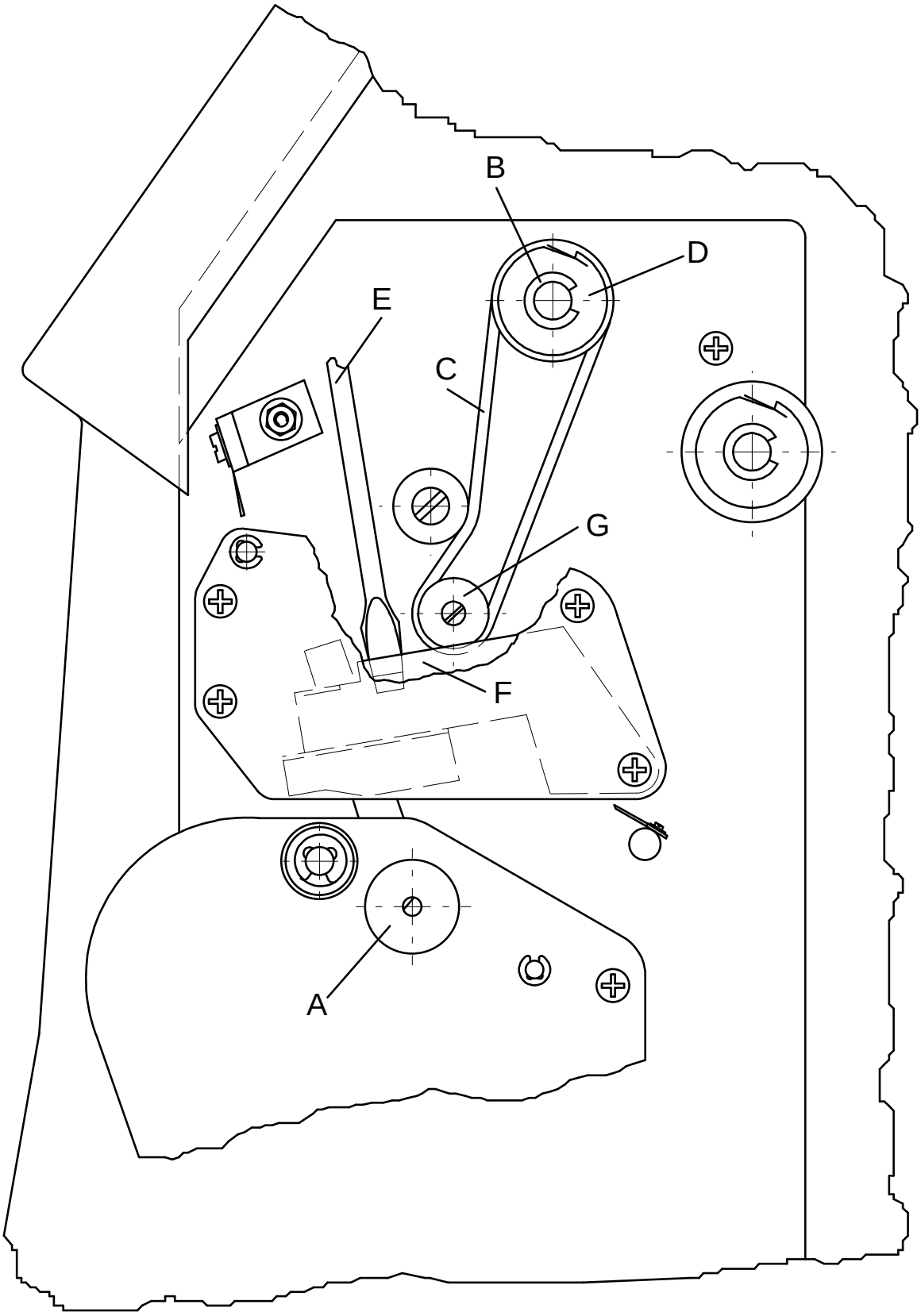


- ▷ Switch off machine, plug out!
- ▷ After removing screws (A1, A2), take off left cover.
- ▷ After removing 4 screws (B), only one is displayed, take off cover of power unit.
- ▷ Pull off cogged belt (C) from return pulley (D).
- ▷ Loosen locking screws (E1, E2) and pull off belt drive (F) with belt, spacing washer and ball bearing from the shaft.
- ▷ Take off locking washer (G) on the other side of the shaft.
- ▷ Take out tension roll (H) of the print mechanics.
- ▷ As much as possible clean ball bearing in dry cleaning solvent and then lubricate new.

Installation:

Installation of the new roll and reinstallation of all components in opposite order.
Attention: Pay attention to the correct fit of the cogged belt (C)!

3.8. Exchange of O-belt



- ▷ Switch off machine, plug out!
- ▷ Open right cover.
- ▷ By turning the knurled knob (A) counter clockwise, press down the printhead.
- ▷ Take off locking washer (B).
- ▷ Pull off O-belt (C) from ribbon unwinding roll (D) and take it out.
- ▷ Carefully lever the printhead bracket (F), according to the sketch with screwdriver (E) (e.g. size 6) to the front.
- ▷ At the same time pull off manually or with second screwdriver O-belt from synchroflex drive (G).

Installation:

- ▷ Installation of the O-belt in opposite order.

Attention:

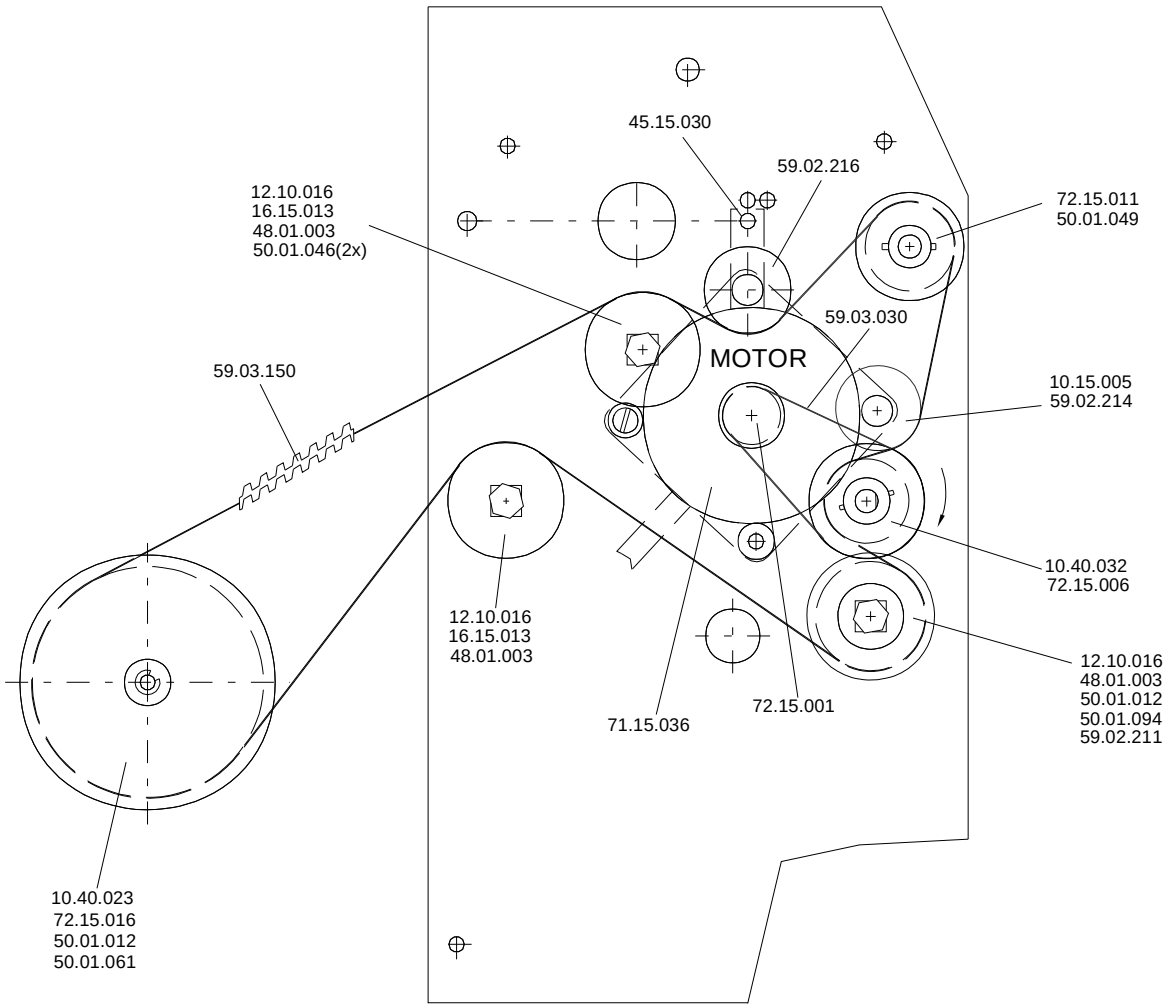
- Lever away printhead bracket (F) just as much as necessary, so nothing gets bent.
- Pay attention to the correct running of the O-belt (see sketch).
- No lubricant onot O-belt (if necessary clean it).

3.9. Exchange of cogged belt

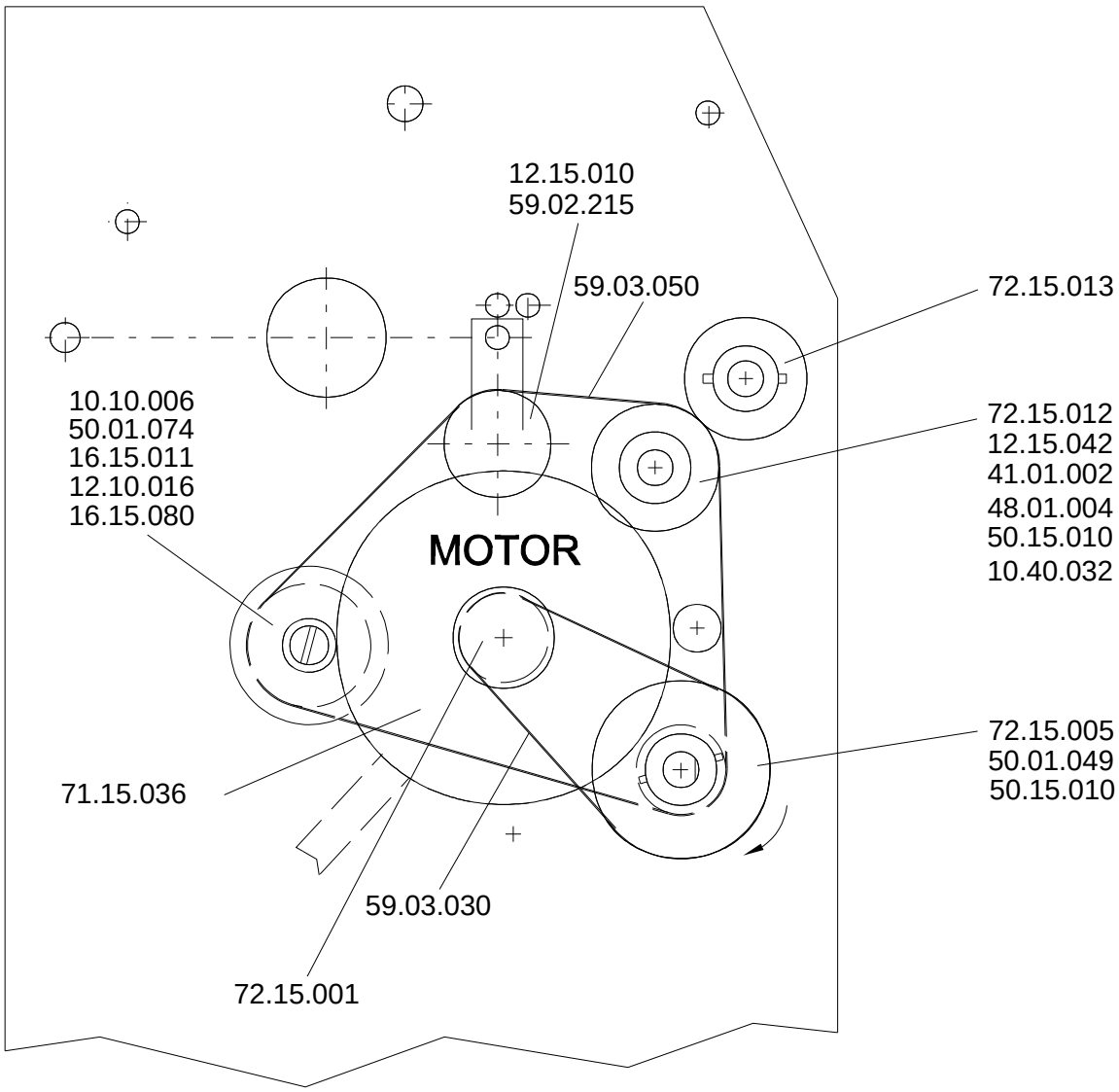
The printer desco II had been delivered in several versions. The difference is the running of the belt. Following the different versions are shown in picture. The steps to exchange a belt are as much the same, so they will only be described detailed for the standard version.

3.9.1. Standard

7,6 dot printer (long belt)

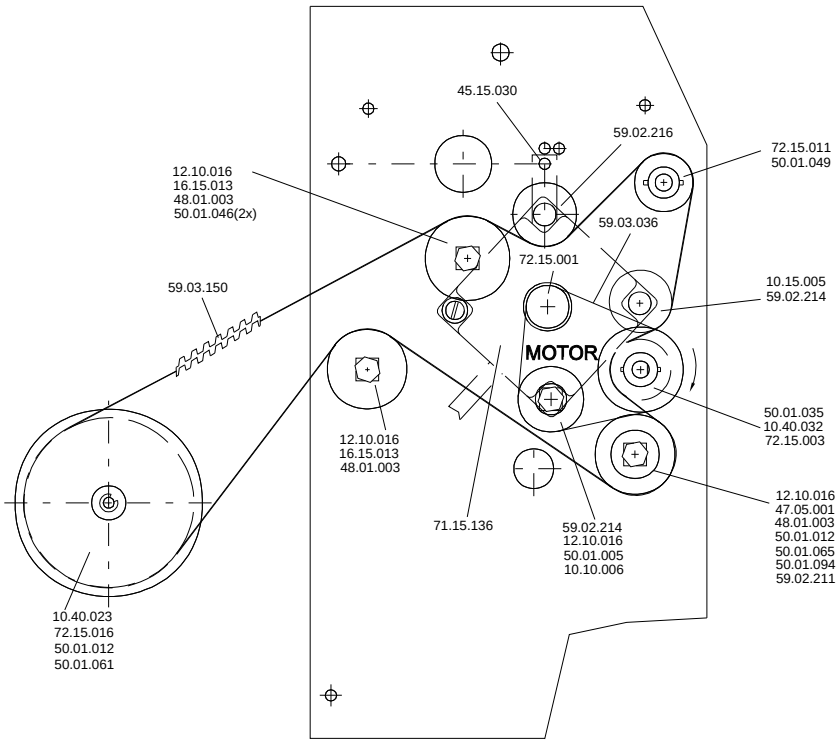


7,6 dot printer (short belt)

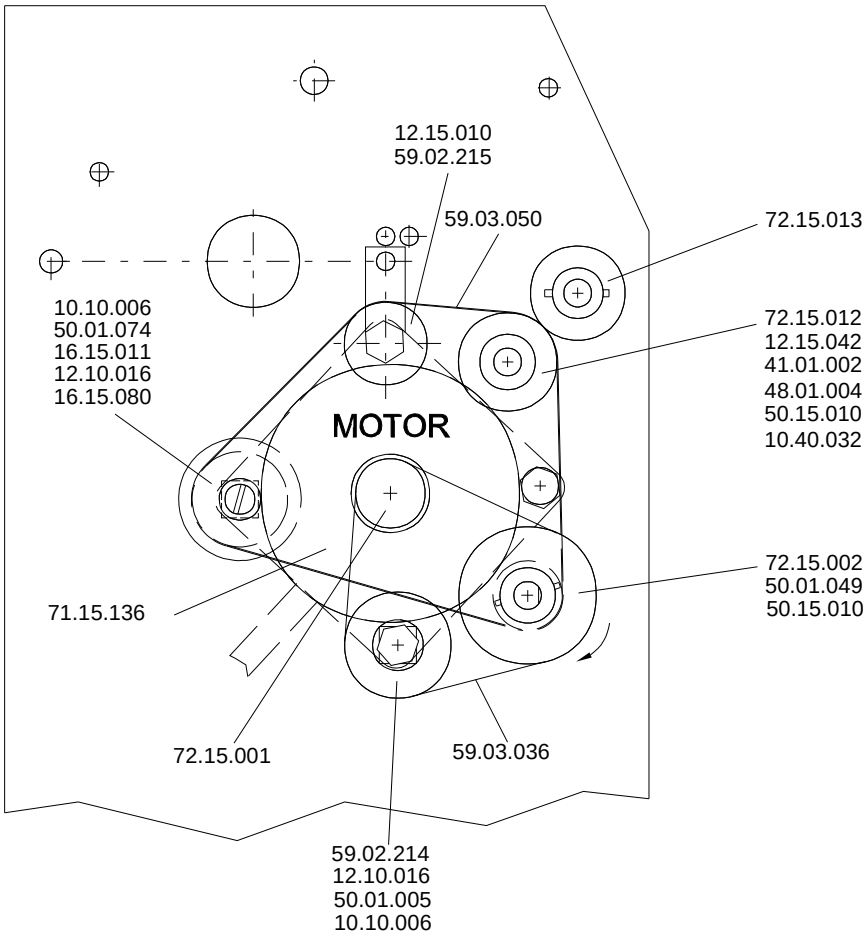


- ▹ Switch off machine, plug out!
- ▹ Take off the left cover.
- ▹ Take off cover of power unit.
- ▹ Pull off all cable plug connectors from the power unit plate.
  Attention: Pay attention to the position of the plugs for the purpose of reinstallation!
- ▹ Take off power unit plate.
- ▹ Remove defect cogged belt.
- ▹ Take off motor.
- ▹ Take off short cogged belt.
- ▹ In case of need, pull off belt drive from shaft after screwing off the two locking screws.
- ▹ Take off cogged belt.

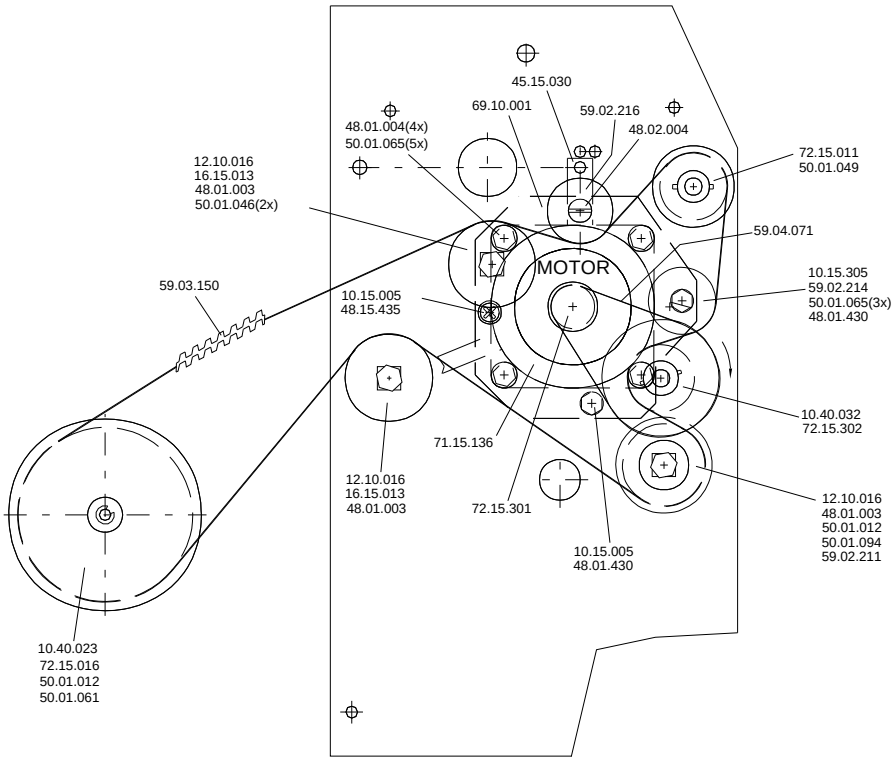
8 dot printer (long belt)



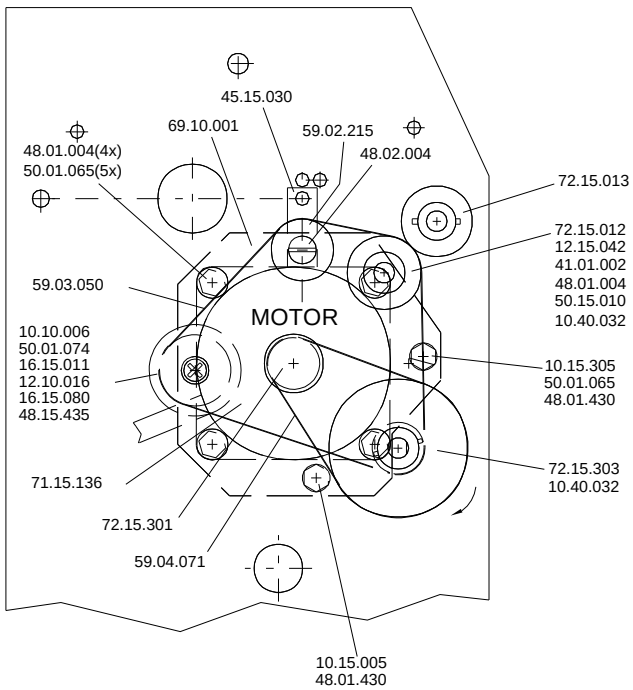
8 dot printer (short belt)



12 dot printer (long belt)

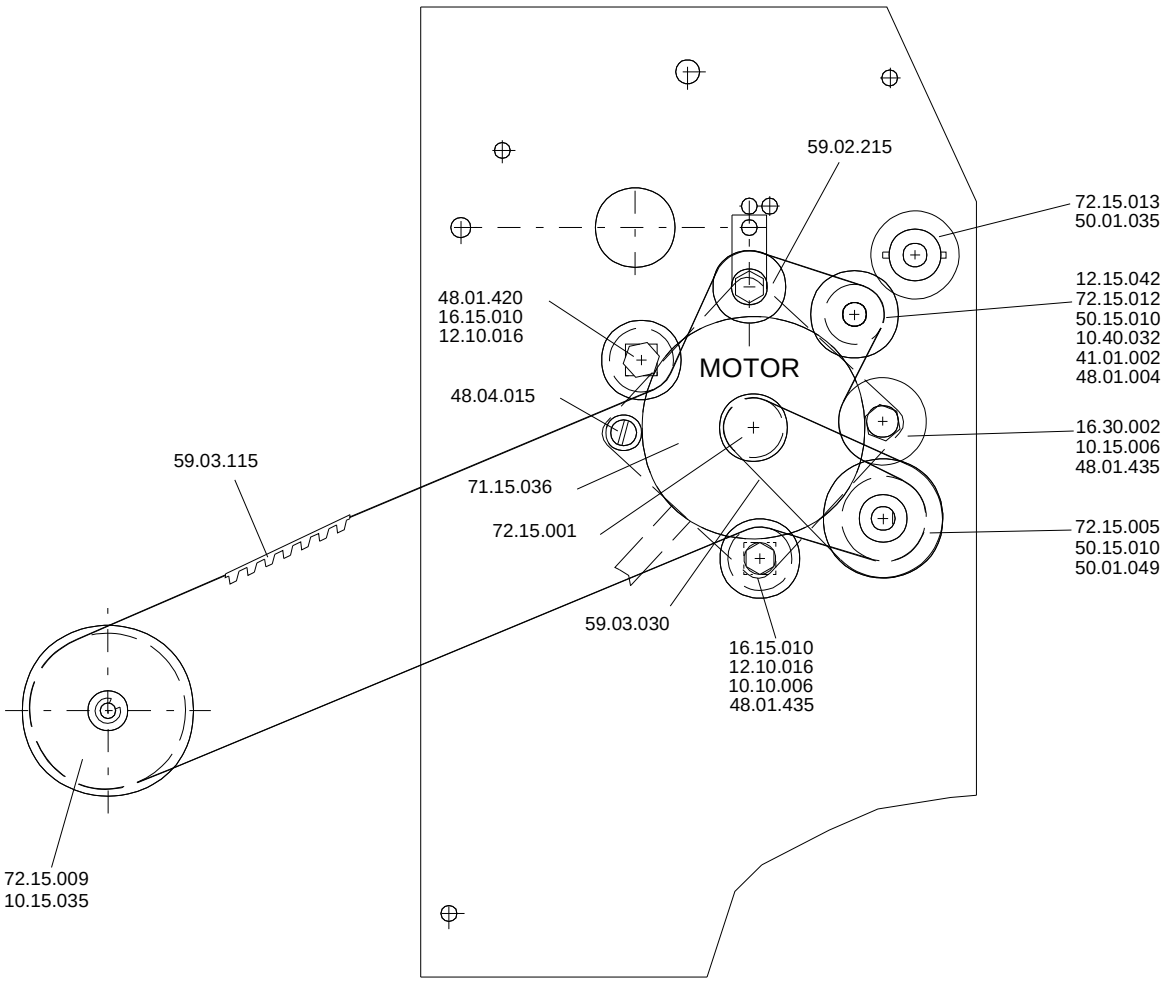


12 dot printer (short belt)

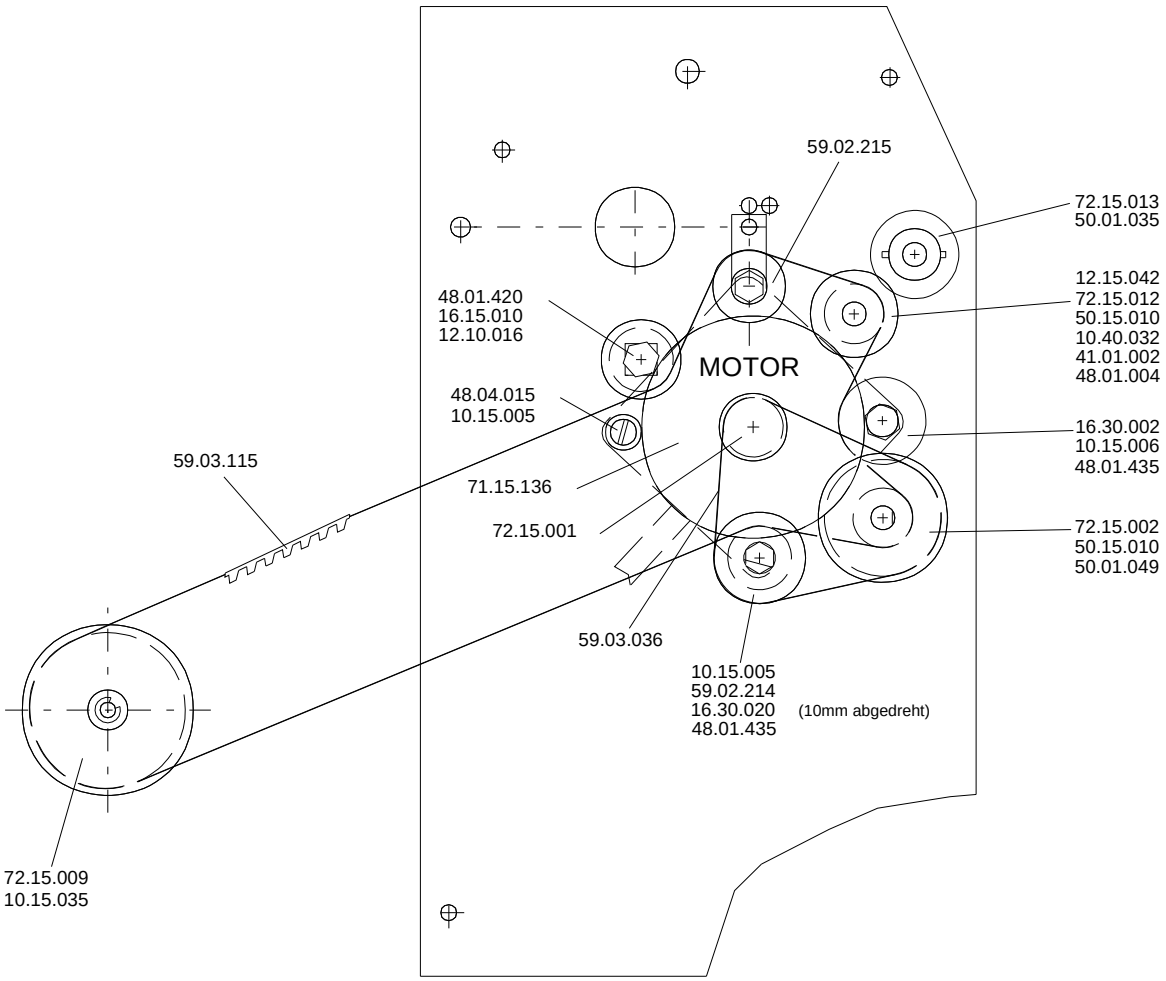


3.9.2. Version: rewinding roll inverse

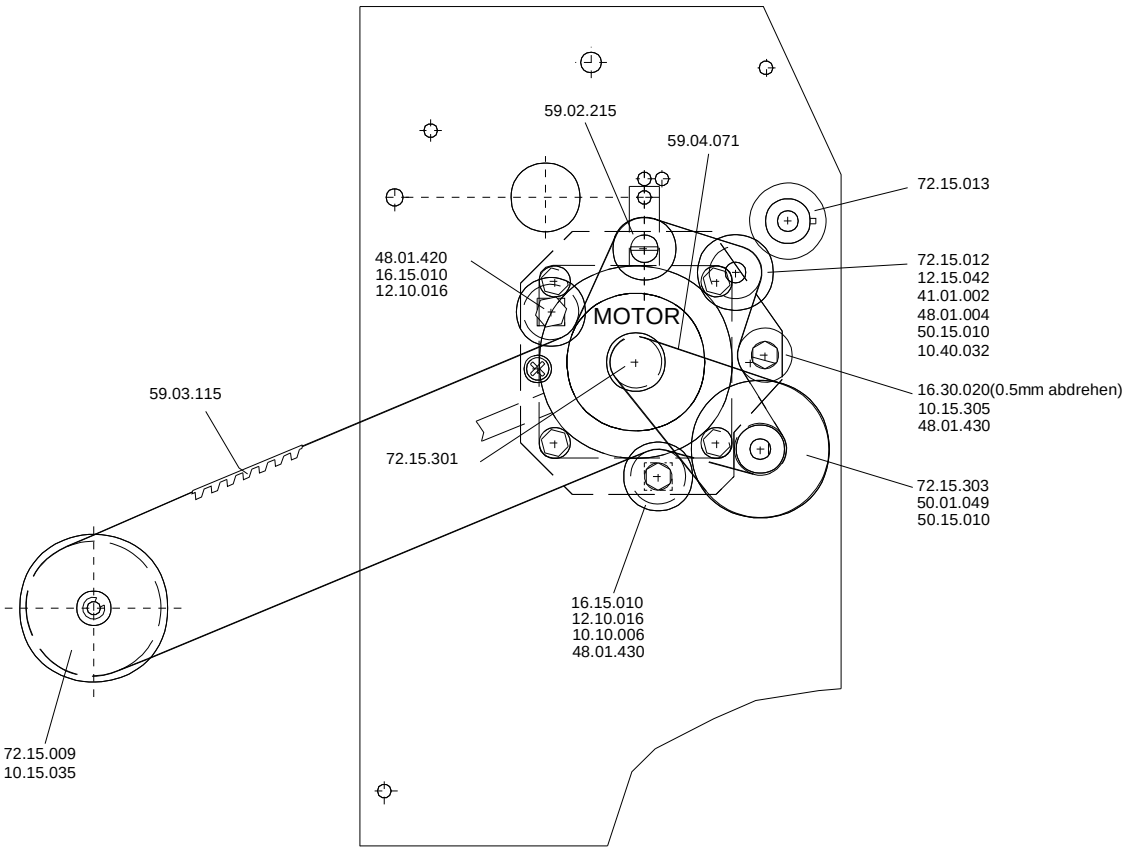
running of belt 7,6 dot printer:



running of belt 8 dot printer:



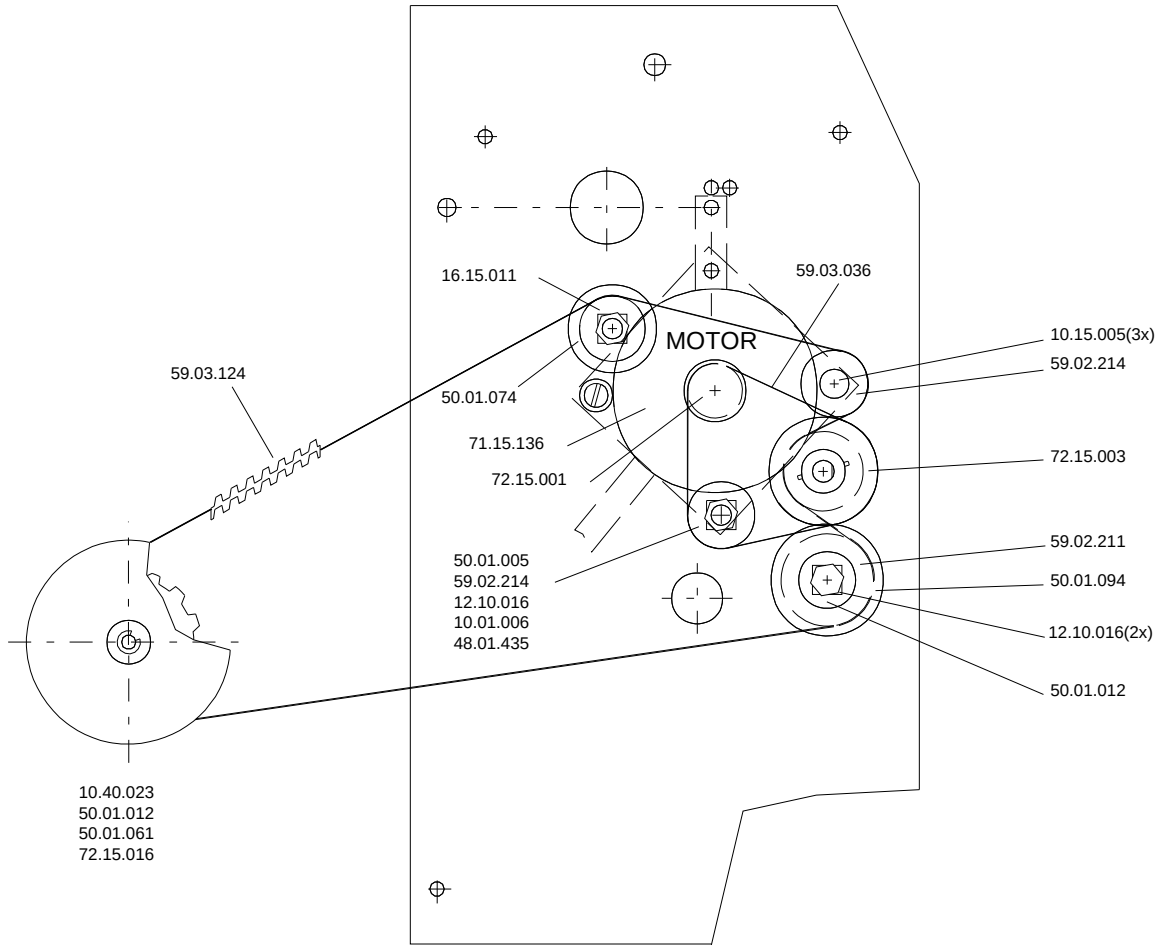
running of belt 12 dot printer:



3.9.3. Thermal version

only 8 dot printer

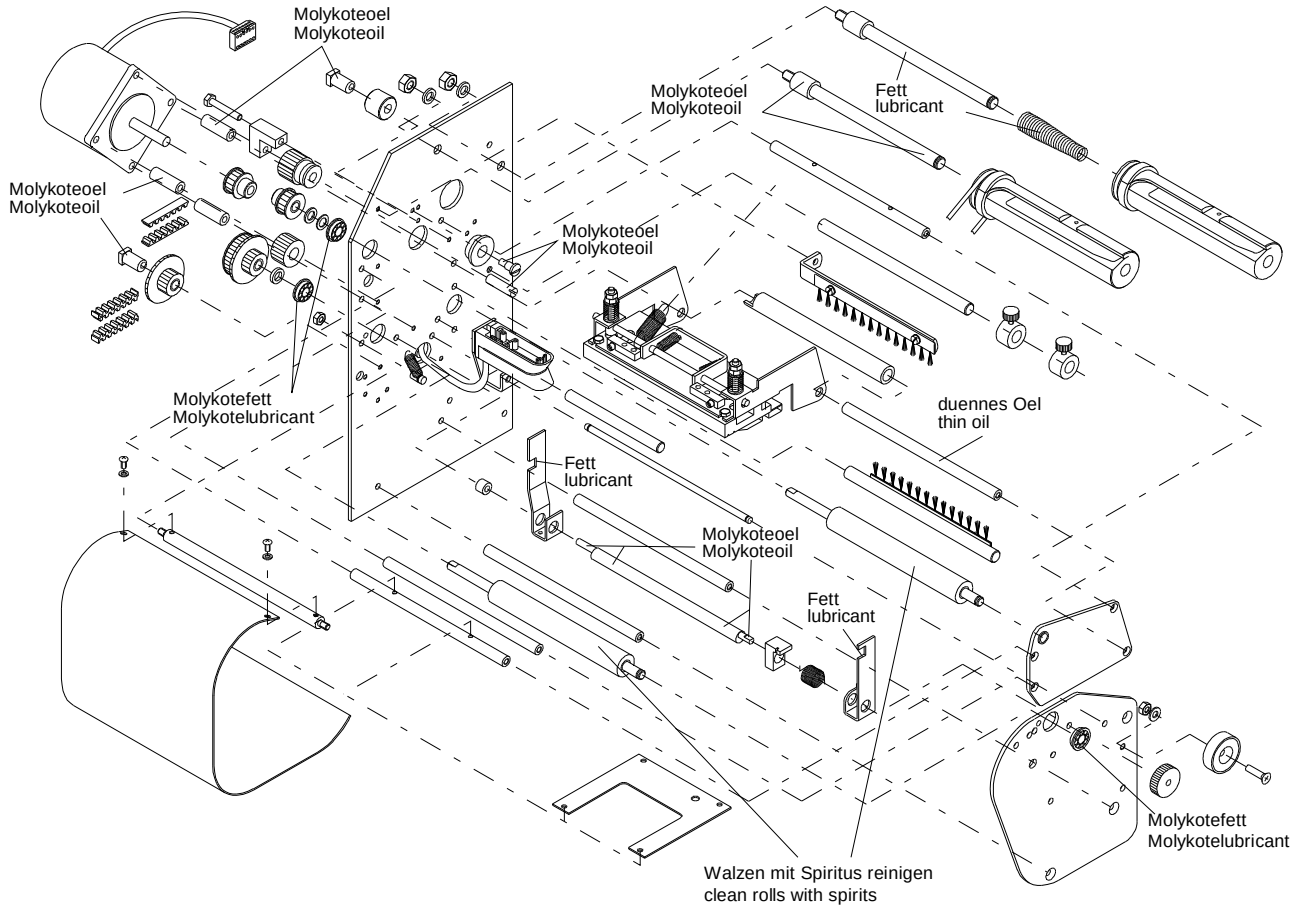
running of belt:



3.10. To oil and lubricate

In the following all oil and lubricate points of the printer are shown.

Note: It is advisable to oil and to lubricate the printer completely twice a year!

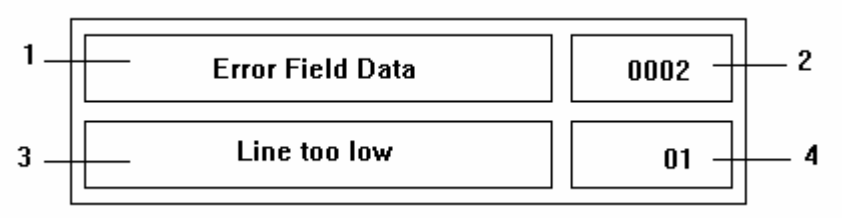


4. Possible sources of error

4.1. Display

In case of error the following display will appear:

Example:



1	Error categories	
	• unknown error • label error • system error • data error • ribbon error	• error interface • error field data • error memory • error parameter • error print parameter
2	Number of error	
	The number of error is indicated, see table of errors chapter "4.2. Table of errors".	
3	Text	
	Specification of the error occured.	
4	Line number, MC-Slot	
	Indication where res. in which line the error occured.	

4.2. Table of errors

number of error	possible causes	how to solve the problem
1	• line completely/partly projects the upper label rim	• place the line in a lower position (Y↑) • check rotation, font
2	• line completely/partly projects the lower label rim	• place the line in a higher position (Y↓) • check rotation, font
3	• line completely/partly projects the left label rim	• move the line to the right (X↑) • check rotation, font
4	• line completely/partly projects the right label rim	• move the line to the left (X↓) • check rotation, font
5	• one/more characters of the text is/are not included in the selected font	• change text • change font
6	• one/more characters of the text is/are not included in the selected font	• change text • change font
7	• impossible to match the text into the selected field	• check field size
8	• internal error	• Please contact your distributor.
9	• the selected type of text is not available	• check type of text
10	• the selected code is not available	• check type of code
11	• the selected position is not available	• check position
12	• the selected font is not available	• check font
13	• the font EPROM does not support the selected language	• check language • Please contact your distributor.
14		
15	• error in font EPROM	• Please contact your distributor.
16	• error in font EPROM	• Please contact your distributor.
17	• error in font EPROM	• Please contact your distributor.
18	• error in font EPROM	• Please contact your distributor.

number of error	possible causes	how to solve the problem
19	• when measuring label the difference between label and backing paper is too small	• adjust label photocell (distributor) • change sensitivity
20	• when measuring no label found • the selected label length is too high	• remeasure • check label length
21	• while printing no marking/gap found	• check label
22	• while printing ribbon is empty • defective ribbon photocell	• change ribbon • check ribbon photocell in menu service • check ribbon sensitivity
23	• loss of data at serial interface (RS 232)	• check Baudrate • check cables (on printer and PC)
24	• parity error	• check parity • check Baudrate • check cables (on printer and PC)
25	• stopbit error	• check stopbits • check Baudrate • check cables (on printer and PC)
26	• received line number invalid with RS 232 / Centronics	• check data sent • connection PC - printer
27	• invalid length of received mask statement	• check data sent • connection PC – printer
28	• invalid mask statement	• check data sent • connection PC – printer
29	• missing ETB	• check data sent • connection PC – printer
30	• invalid length of received code statement	• check data sent • connection PC – printer
31	• invalid length of received command statement	• check data sent • connection PC – printer

number of error	possible causes	how to solve the problem
32	• illegal statement	• check data sent • connection PC – printer
33	• entered/received check digit is faulty in check digit control	• recalculate check digit • check code data
34	• selected SC code invalid with EAN/UPC	• check SC code
35	• entered number of characters invalid with EAN/UPC Code < 12; > 13	• check number of characters
36	• type of check digit not available with selected code	• check digit control • check type of code
37	• not readable printer parameter	• check serial EEPROM (service)
38	• printer parameter cannot be stored	• check serial EEPROM (service)
39	• selected zooming factor invalid	• check zooming factor
40	• entered sign of offset invalid	• check offset value
41	• entered offset value invalid	• check offset value
42	• printhead temperature too high • defective temperature sensor of printhead	• contrast ↓ • change printhead (service)
43	• error cutter, paper jam	• check label guiding • check cutter
44	• entered characters are not conform to the characters allowed by the application identifiers	• check code data
45	• application identifier not available with EAN 128	• check code data
46	• continuous mode selected, printer received a command statement via interface, where number of lines < 2. Label length is missing.	• do not select continuous mode or transmit dummy line with Y-coordinates = label length (see interface manual)
47	• connection CPU – Memory-Card interface has been interrupted • Memory-Card interface defective	• check connection CPU – Memory-Card interface • check Memory-Card interface

number of error	possible causes	how to solve the problem
48	• Memory-Card not or not correctly entered	• enter Memory-Card
49	• wrong type of Memory-Card entered (8/16 Bit)	• check card type (has to be 16 Bit)
50	• charge of battery / accumulators can cause loss of data on the Memory-Card	• change battery (attention, loss of data!)
51	• battery / accumulators empty	• change battery (attention, loss of data!)
52	• "Write-Protect"-switch on Memory-Card is on position "ON"	• deactive write protection
53	• Memory-Card not formatted	• formate Memory-Card
54	• no files on Memory-Card	
55	• file does not exist on Memory-Card	• search through the contents of the Memory-Card and select the desired file name • check directory and device
56	• invalid characters in the file name	• check characters
57	• max. storage space of Memory-Card is reached	• use a new Memory-Card • delete files on Memory-Card that are no longer needed
58	• max. number of main directory entries is reached	• at least one main directory entry has to be deleted, then create subdirectories
59	• selected file includes no graphic dates	• check file name
60	• selected file includes no label dates	• check file name
61	• invalid directory name	• check directory name
62	• selected directory already exists	• check directory name
63	• you tried to delete the actual directory	• change directory
64	• directory to be deleted is not empty	• first delete all files in the directory
65	• selected subdirectory does not exist	• check directory name

number of error	possible causes	how to solve the problem
66	• RTC function has been selected, though no RTC is installed in the printer • RTC defective	• check selected function, add RTC ram • exchange RTC ram
67	• no print memory found	• check memory standard on CPU board
68	• max. storage space of Memory-Card is reached	• delete files that are no longer needed
69	• internal error	• Please contact your distributor.
70	• wrong format entered for variable line	• check format string
71	• wrong format entered for date/time	• check format string
72*		
73*		
74*		
75*		
76	• different software standard of graphics processor / main processor	• Please contact your distributor.
77	• different software standard of graphics processor / main processor or hardware error	• Please contact your distributor.
78	• connected barcode scanner signals device error	• check connection scanner / printer • check scanner, possibly defective
79	• bad print quality • printhead completely soiled or defective • printing speed too high	• increase contrast • clean printhead or exchange if necessary • decrease printing speed
80	• scanned character sequence is not identical with character sequence to be printed, due to possibly missing dots a false barcode was printed	• exchange printhead
81	• definition of counter variables invalid, entry of inadmissible characters as counter	• check characters of counter in text statement • check counting mode

* IDS error